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Eight Standard Magazines, Each for Three Issues, beginning with Current Numbers.

**Offer...
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Success Magazine.....	10c a copy.....	3 months.....	\$.30
Pictorial Review.....	15c a copy.....	3 months.....	.45
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Youth's Companion.....	5c a copy.....	3 weeks.....	.15
Metropolitan Magazine.....	15c a copy.....	3 months.....	\$.45
Modern Priscilla.....	10c a copy.....	3 months.....	.30
Pacific Monthly.....	15c a copy.....	3 months.....	.45
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		Total single-copy price.....	\$3.00

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... No. 3**

Pictorial Review.....	15c a copy.....	3 months.....	\$.45
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Mothers' Magazine.....	5c a copy.....	3 months.....	.15
Little Folks.....	10c a copy.....	3 months.....	.30
Pacific Monthly.....	15c a copy.....	3 months.....	.45
Health Culture.....	10c a copy.....	3 months.....	.30
		Total single-copy price.....	\$2.55

The Farm Journal (Philadelphia) for three months may be substituted for any magazine in either offer.

Magazines must all go to ONE address. No Canadian or foreign subscriptions accepted. Offers are for a very limited time only.

HOW TO GET THEM

You Must be a Subscriber to Gleanings in Bee Culture

If you are NOT a subscriber, the "Eight Standard Magazines" for three months and "Gleanings in Bee Culture" for one year will cost you—

For Offer No. 1.....\$1.60
For Offer No. 2.....1.60
For Offer No. 3.....1.30

If you ARE a subscriber, but want to take advantage of these unusual offers, the "Eight Standard Magazines" for three months will cost you—

For Offer No. 1.....\$1.00
For Offer No. 2.....1.00
For Offer No. 3......50

Place Order To-day. Tell Your Friends.
Remit in Any Way Convenient to You.

Gleanings in Bee Culture, Medina, O.

Honey Markets

The prices listed below are intended to represent, as nearly as possible, the average market prices at which honey and beeswax are selling at the time of the report in the city mentioned. Unless otherwise stated, this is the price at which sales are being made by commission merchants or by producers direct to the retail merchant. When sales are made by commission merchants, the usual commission (from five to ten per cent), cartage, and freight will be deducted, and in addition there is often a charge for storage by the commission merchant. When sales are made by the producer direct to the retailer, commission and storage, and other charges, are eliminated. Sales made to wholesale houses are usually about ten per cent less than those to retail merchants.

EASTERN GRADING RULES FOR COMB HONEY.

FANCY.—All sections well filled, combs straight, firmly attached to all four sides, the combs unsloped by travel-stain or otherwise, all the cells sealed except an occasional one, the outside surface of the wood well scraped of propolis.

A NO. 1.—All sections well filled except the row of cells next to the wood; combs straight; one-eighth part of comb surface soiled, or the entire surface slightly soiled; the outside surface of the wood well scraped of propolis.

NO. 1.—All sections well filled except the row of cells next to the wood; combs comparatively even; one-eighth part of comb surface soiled, or the entire surface slightly soiled.

NO. 2.—Three-fourths of the total surface must be filled and sealed.

NO. 3.—Must weigh at least half as much as a full-weight section.

In addition to this the honey is to be classified according to color, using the terms white, amber, and dark; that is, there will be "Fancy White," "No. 1 Dark," etc.

NEW COMB-HONEY GRADING-RULES ADOPTED BY THE COLORADO STATE BEE-KEEPERS' ASSOCIATION.

NO. 1 WHITE.—Sections to be well filled and evenly capped except the outside row, next to the wood; honey white or slightly amber, comb and cappings white, and not projecting beyond the wood; wood to be well cleaned; cases of separated honey to average 21 pounds net per case of 24 sections, no section in this grade to weigh less than $13\frac{1}{2}$ ounces.

Cases of half-separated honey to average not less than 22 pounds net per case of 24 sections.

Cases of unseparated honey to average not less than 23 pounds net per case of 24 sections.

NO. 1 LIGHT AMBER.—Sections to be well filled and evenly capped, except the outside row, next to the wood; honey white or light amber; comb and cappings from white to off color, but not dark; comb not projecting beyond the wood; wood to be well cleaned.

Cases of separated honey to average 21 pounds net per case of 24 sections; no section in this grade to weigh less than $13\frac{1}{2}$ ounces.

Cases of half-separated honey to average not less than 22 pounds net per case of 24 sections.

Cases of unseparated honey to average not less than 23 pounds net per case of 24 sections.

NO. 2.—This includes all white honey, and amber honey not included in the above grades; sections to be fairly well filled and capped, no more than 25 uncapped

cells, exclusive of outside row, permitted in this grade, wood to be well cleaned, no section in this grade to weigh less than 12 ounces.

Cases of separated honey to average not less than 19 pounds net.

Cases of half-separated honey to average not less than 20 pounds net per case of 24 sections.

Cases of unseparated honey to average not less than 21 pounds net per case of 24 sections.

COLUMBUS.—We are having numerous inquiries for new comb honey. It will probably sell, fancy white, per lb., 16; No. 1 ditto, 15.

Aug. 3.

THE EVANS & TURNER CO.

SCHENECTADY.—We have received a few small lots of both comb and extracted honey from local producers. We have placed some of the No. 1 white comb at 15 cts. per lb., and the extracted in small pails at 9 cts. The demand during August is always quite limited, due to hot weather and fresh fruit.

Aug. 4.

CHAS. MACCULLOCH.

INDIANAPOLIS.—There is a good demand for the best grades of honey. Producers are being paid the following cash prices: Fancy white comb, 16; No. 1 white, 14; finest extracted in five-gallon cans, 8; no demand for amber or off grades. The demand for comb honey exceeds the supply, while the market is well supplied with extracted. Producers of beeswax are receiving 28 to 30 cts. per lb.

Aug. 3.

WALTER S. PODER.

CINCINNATI.—The market is bare of fancy white comb honey. We could make some good sales if we had shipments of fancy white goods at once. We have a fine table honey, selling at 8 cents. Amber honey in barrels is selling at 6 to $6\frac{1}{2}$ according to quantity. We are paying 28 cts. in cash and 30 in trade for beeswax delivered here.

July 23.

C. H. W. WEBER & CO.

ZANESVILLE.—There is now a good demand for honey. For No. 1 to fancy white-clover comb the jobbing trade would pay $14\frac{1}{2}$ to 15 cents delivered here; and for best extracted, 8 to $8\frac{1}{2}$. It is too early for the market to be established, but better grades are selling a little higher than at the time of last quotations—16 to 17 cents; off grades, $12\frac{1}{2}$ to 13. For clean beeswax I offer 29 cents cash or 32 in exchange for bee supplies.

July 23.

EDMUND W. PEIRCE.

NEW YORK.—Very little is doing in comb honey as yet. We are receiving some small shipments of the new crop from the South, and it is selling at 10 to 14, according to quality. New York State comb honey we do not expect until the latter part of next month. Old stock by this time is pretty well cleaned up, and the market is ready for the new crop. Extracted honey is in only fair demand. As receipts from the West Indies and the South are increasing, prices show a downward tendency, and are gradually declining. New crop of California extracted is being held on the coast at from $5\frac{1}{2}$ to $6\frac{1}{2}$, according to quality; but at these prices buyers are scarce. Most of them prefer to hold off, expecting lower prices later on.

July 23.

HILDRETH & SEGELKEN.

SIMPLY DELICIOUS!

The finest car of Sage Honey that ever crossed the "Rockies" just arrived, and we are selling it like "hot cakes" in crates of two 60-lb. cans at $9\frac{1}{2}$ c per lb. Samples 10c.

If you want Honey that's truly delicious send for some to-day.

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Extracted Honey Wanted

We are always in the
market.

If you have any to sell, mail
small average sample to

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BISCUIT COMPANY
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HONEY

of the different grades and kinds

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We are always in the market for WAX
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Dr. Miller is too well known among the bee-
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His book is charmingly written, and covers his
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If it is extracted honey, mail us sample and
quote us lowest price. If it is comb honey,
state what kind it is, and how put up. We
are ALWAYS in the market for honey. . . .

Give us a trial on

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Ours can not be excelled

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DISCONTINUANCES. We give notice just before expiration, and further notice if the first is not heeded, before discontinuing. Subscribers are urged to renew promptly in order to avoid interruption in receipt of GLEANINGS; or, if unable to make payment at once, to advise us when they can do so, which will be considered as an order to continue. Any one wishing his subscription discontinued should so advise us upon receipt of expiration notice and he will not be annoyed by further notices.

HOW TO REMIT. Remittances should be sent by Draft on New York, Express-order or Money-order, payable to order of The A. I. Root Company, Medina, Ohio. Currency should be sent by registered letter.

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PARIS, FRANCE. E. Bondonneau, 56 & 58 Avé. Félix Faure, Paris 15. *Per year, postpaid, 7½ fr.*

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HARDY BEES!

Bees of the Superior Stock, furnished by J. P. Moore, of Kentucky, are the best honey-gatherers that I ever owned. They are gentle—smoke is seldom necessary in handling them, and very little at that. Besides this, they are very hardy—seem to have more than the ordinary amount of vitality. We had a very striking example of this the second spring that we had bees in Northern Michigan. About half of our bees were of this strain, and the other half of several different strains. The Moore strain of bees were quiet all winter, consuming very little honey, and coming out in the spring fully as strong as they went in. Then, still further, they "stood up" during the trying weather that followed after they were set out of the cellar. When colonies of other strains were dwindling away and succumbing to the cold, these bees held their own; and when the harvest opened up the last of June they certainly were far ahead of all the other bees we had in the North. They were treated the same the previous

fall, kept in the same cellars, protected and fed the same in the spring, but they came out ahead. It was simply in the *breed of the bees*.

We brought 100 queens of Mr. Moore this year to use in making increase. It was not that we did not have just as good stock in our own yards, but we could buy them cheaper than we could rear them.

Now is the time to buy queens and have them introduced and all ready to breed from next spring. I can furnish queens of this strain (they will be sent out by Mr. Moore) at \$1.00 each, or I will send the Review for 1909 and 1910 and one of these queens for only \$1.50. Mr. Moore has 700 nuclei, and will fill orders by return mail. Send me \$1.50, and I'll at once forward your order to Mr. Moore, send you the back numbers of the REVIEW for this year, and then keep on sending it to you to the end of next year.

W. Z. HUTCHINSON, Flint, Mich.

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The American Bee Journal is a 32-page illustrated 15-cent monthly. It tells all about the best way to manage bees to produce the most honey; with market quotations, etc. A dozen different departments—one for women bee-keepers. Best writers. If you will send us your name and address with 40 cents (stamps or coin) together with this coupon, we will send you a trial trip of Bee Journal for 12 months. Order now and let us begin with this month's fine number. Sample copy free. Address,

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Devoted to Bees, Honey, and Home Interests

Established 1873

Circulation 35,000

72 pages Semi-monthly

A. L. BOYDEN, Advertising Manager

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Twenty-five cents per agate line, flat. Fourteen lines to inch.

SPACE RATES. To be used in one issue. One-fourth page, \$12.50; one-half page, \$25.00; one page, \$50.00.

Preferred position, inside pages, 30 per cent additional.

Preferred position, inside cover, 50 per cent additional.

Outside cover page, double price.

Reading notices, 50 per cent additional.

Cash-in-advance discount, 5 per cent.

Cash discount if paid in 10 days, 2 per cent.

Bills payable monthly.

No medical or objectionable advertising accepted.

Column width, $2\frac{5}{8}$ inches.

Column length, 8 inches.

Columns to page, 2. (Regular magazine page.)

Forms close 10th and 25th.

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ALEXANDER'S WRITINGS

on PRACTICAL

BEE CULTURE

\$1.00

With GLEANINGS ONE YEAR

\$1.00

The writings of the late E. W. Alexander, who needs no introduction to the readers of GLEANINGS, have recently been collected in book form. A glance at the table of contents will show the scope of the book.

Table of Contents of the Alexander Book

- Alexander Plan for Weak Colonies.
- Bee-keeping as a Business.
- Brood-rearing in Spring.
- Comb v. Extracted Honey.
- Diseases of Bees.
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If Gleanings is to be sent to same party
as book, sign only in last two blank lines.

\$1 WITH GLEANINGS ONE YEAR \$1

Canadian Postage 30c Extra

Special Prices

Root's Bee-supplies

WE ARE overstocked on some articles, and the rush of business being practically over with, we have decided to make special prices on the following list of goods, f. o. b. San Antonio. When ordering supers and hives you should order in lots of 5 and 10 or multiples thereof; sections, 500 or multiples; frames, 100 or multiples; shipping-cases, 50 or multiples. These are first-class goods made by The A. I. Root Co., but most of them have been in stock all the season and longer. We are giving designations just as given in Root's Catalog. If you have none write us for one, or write us for any other information.

Frames

9500 Shallow Frames, 4½-inch end-bars each	\$1.25 per 100
1900 Thick-top Staple-spaced Frames, P W, each	1.95 per 100
1500 Shallow All-wood Frs. for I super, ½-in. top-bars, PW,	1.25 per 100
2400 Shallow All-wood Frames for I super, ½-in. top-bars,	1.25 per 100

Hives, Covers, and Bottom-boards

Covers must be ordered in lots of 50 or multiples.

40 Danz. AE5-10 at 85c each.	300 8-10 at 38c each.
500 AE 5-10 PWKD at \$1.05 each.	300 A-10 at 18c each.
500 5-10 PWKD at 60c each	150 B-10 at 26c each.
250 G-10 at 26c each.	100 A-8 at 17c each.

100 B-8 at 25c each.

The above prices are good only until the above number of goods are sold, and only when this advertisement is mentioned. Remittance must accompany each order. Order quick before they are all gone.

Supers, Packed five in each package

330 2P-10 at 33c each.	175 2S-8 at 29c each.
305 4P-10 at 47c each.	55 4S-8 at 42c each.
135 2I-10 at 33c each.	200 2P-8 at 29c each.
115 2S-10 at 33c each.	80 J5-8 at —c each.

Sections---B grade, plain, packed 500 in a package

13,000 4x5x1½ at \$2.85 per 1000 3500 at 3½x5x1½ at \$2.85 per 1000
We also wish to sell 4000 4x5x1½ No. 1 plain sections at \$3.85.

Shipping-cases for Comb Honey

500 12-inch, 4-row, 3 and 2 inch glass	at \$12.50 per 100
350 10-inch, 4-row, 2-inch glass	at 11.50 per 100
200 12-inch, 2-row, 2-inch glass	at 7.40 per 100
200 16-inch, 2-row, 2-inch glass	at 8.25 per 100
250 8-inch, 3-row, 2-inch glass	at 7.50 per 100
350 6½-inch, 3-row, 2 and 3 inch glass	at 7.50 per 100
550 7½-inch, 4-row, 3-inch glass	at 7.50 per 100
250 7½-inch, 3-row, 3-inch glass	at 7.50 per 100
300 9¼-inch, 4-row, 3-inch glass	at 10.50 per 100
50 9¼-inch, 3-row, 3-inch glass	at 10.00 per 100

If you can use any of the cases in the foregoing, list with prices is good in lots of 50 or multiples thereof, as they are put in packages of 50.

Toepperwein & Mayfield

1322 South Flores St.

San Antonio, Texas



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Bee-keepers' Supplies

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John Nebel & Son Supply Co. High Hill, Montg. Co., Mo.

Mr. Bee-Man:

I have a full line of Hives, Supers, Sections, Foundation—in fact, every thing you need in the apiary. If you do not have a catalog, send for one to-day.

H. H. JEPSON Boston,
Friend St. Phone Haymarket 1489-1 Mass.

Watch Your Bees

While in some sections the yield of nectar has been light and not of best quality, weather conditions, especially in the North-Central States, have been very favorable for a moderate honey-flow continuing throughout the summer and terminating in a good fall yield.

Be ready for it. Secure this honey in sections or frames and convert it into cash, rather than allow the bees to crowd the brood-nest and hamper the queen for laying-room.

I have sections, foundation, frames, and every thing else for bees, and can make immediate shipment.

Pierce Service--Root Quality
Will Please You

EDMUND W. PEIRCE
Zanesville, Ohio

PUBLICATIONS ON BEE CULTURE

Please use this order form by checking in the margin the items wanted

The pamphlets and booklets listed below are of more than ordinary interest:

- My First Season's Experience with the Honey-bee.** By the "Spectator," of the *Outlook*, of New York. A ten-page leaflet detailing the experiences of this well-known writer. You will read the leaflet through before you lay it down. Free.
- The Bee-keeper and Fruit-grower.** A 15-page booklet giving actual facts regarding the value of bees to fruit, and showing how bee-keeping may be doubly profitable to the fruit-grower. Fruit-growers are realizing as never before the necessity of having honey-bees in close proximity to their blossoming fruit. Free.
- Bee-keeping for Sedentary Folk.** A 24-page leaflet reciting the actual experiences of an amateur bee-keeper, showing what equipment is best, points derived, etc. Free.
- Catalog of Bee-keepers' Supplies.** Our complete catalog will be mailed free to any address on request.
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Please send me the items checked above;
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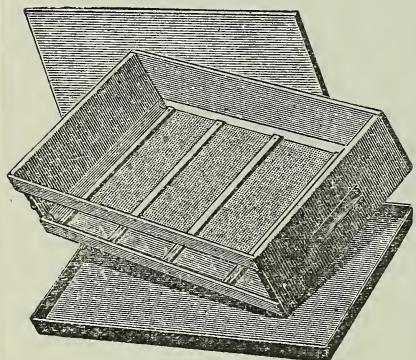
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DOLL SHIPPING CASES



are very well made of fine white basswood with one-piece cover and bottom. Can furnish with either corrugated paper or "no-drip sticks."

Doll Shipping - Cases

are made for any number or size of sections, with either two or three inch glass front.

We Have a Large . . . Stock on Hand

which means prompt shipment, and our prices are the lowest.

HONEY - PACKAGES IN TIN

for shipping or storing extracted honey prevents leakage and taint from wood; being square, they are extra strong and economize space. One-gallon cans, ten in a box; five-gallon cans, one or two in a box.

Send for Our Estimate for 1909.

**Minnesota
Bee-supply Company**
123 Nicollet Island
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Better Supplies More Profits

You know to how large an extent the profits of bee culture depend upon the right kind of supplies, and you know, too, that just as important as the right supplies is to get them when you want them, at the right price.

In every way—location, stock, and low prices—we are fitted to serve you to your profit.

We Ship on Time

and you get the goods when you want them. We are centrally located, and can ship direct by boat and over thirty different railroads. Our stock is the best, and we sell the best goods at the lowest prices. What more can you want? Write today for our big book and special prices for this month.

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SUPPLIES . . . and QUEENS

Every thing needed by the bee-keeper, and purest strain of Italian queens and bees. Tested queens, \$1.50; untested, 75c.

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WETUMPKA . . . ALABAMA

HOW TO KEEP BEES

By ANNA BOTSFORD COMSTOCK

THIS is an excellent book for the beginner. Nothing better. We cordially recommend it to all who are learning bee-keeping by their own effort. Having commenced bee-keeping three times, the talented author is in a position to furnish the right kind of advice. You can not go wrong in ordering this book. It is charmingly written and easily understood. Price \$1.10 postpaid by

THE A. I. ROOT COMPANY, MEDINA, OHIO

AS THE ADVERTISING DEPARTMENT SEES IT

One of the purposes of this department has been to harmonize the interests of our advertisers and subscribers. This work we do largely by personal correspondence; but occasionally there arise matters of general or special interest which may be so valuable to others that we give place to them on these pages.

Bee-supply dealers, as well as manufacturers and advertisers generally, who are seeking to build up a profitable business by means of advertising, are often in doubt as to the best course to pursue when complaint reaches them of either a shortage of goods, which they are sure were included, or that the wrong kind of goods was sent, and they can not account for such a report. Not long ago a report reached this office that a bee-supply dealer in the East had sent one of our subscribers the wrong kind of sections; and, coupled with a somewhat unusual delay, this made the purchaser quite displeased. The order was so clear that it didn't seem at all possible that the wrong kind of sections could have been sent; and before sending another lot the shipper wrote for an explanation. Now, when the explanation came, the shipper himself was as much surprised as any one could be; for it turned out that the customer, being unfamiliar with bee-appliances, had not understood the folding of the one-piece sections, and had folded them wrong side out, thereby increasing their measurement. We get such bitter complaints occasionally of carelessness on the part of our advertisers that we cite this case to show that the real facts may be quite different from what a first report may have indicated.

Another quite different matter came to our notice a day or two ago. One of our subscribers had written us several letters complaining of one of our advertisers, to the effect that the queen ordered many weeks ago had not been received, nor could he get any advice regarding it. Now, queen-breeders throughout the country were crowded with orders all the early part of the season; but for some weeks most of them have been able to fill orders by return mail, and yet this party failed to get his queen or any advice regarding it. After we had written the advertiser several times, our subscriber received his queen, and, notwithstanding the bitter complaints he had previously made, in advising us of the receipt of the queen he said, "I must say the shape they were shipped in and put up makes A. I. Root and all others with whom I have had dealings look like mere imitators. The queens looked as good as expected, also." Naturally we felt surprised at the attitude of this man, and we concluded that he hadn't had dealings with a large number of our queen-breeders, many of whom send queens successfully to all parts of the world. Our purpose to get fair play for both subscribers and advertisers remains the same, however.

We believe that, in a large majority of cases, dealings between readers and advertisers are alike satisfactory and profitable to both; but it so often happens that the satisfied customer is so content with his transaction that he forgets to mention it, either to us or the one with whom he has been dealing, that it is pleasant to read the occasional comments received at this office regarding transactions with our advertisers. Just a day or two ago a Florida bee-keeper wrote us expressing his great satisfaction with the treatment he received from a well-known honey-merchant to whom he had consigned his honey, reporting that not only had he received all he expected but had prompt settlement by return mail at a price higher than anticipated, or that the market warranted, as it appeared to him. We passed the letter along to the honey-merchant; for, no matter how many satisfied customers he has, he is always glad to see such a commendation as this. If our advertisers do well by you, as they usually do, don't hesitate to tell them of it; for, if for no other reason, it will probably pay you, when you are sending another order, in the extra effort they will make to serve you.

"If Goods are wanted Quick, Send to Pouder."

Established 1889

Survival of the Fittest

By the Bee Crank

The tales of those new-fangled things
We read of, near and far,
Sound too delightful to be true—
And many of them are.

My twenty-years' experience in hunting for and testing out new things for bee-men has brought to my attention a great many devices for which great claims were made. Some of these made good, but very many proved to be bubbles which burst at the first touch of actual service. My own experience is not different from the other fellows', for I remember how I had planned to construct a bee-escape some years ago that would be practical, when a man by the name of Porter instead of Pouder came out with one so perfect that it could never be improved. Then I had dreams about a veil with a flexible celluloid face, but I soon learned that better veils were already on the market. Then I devised an open-cornered section, and I supposed every bee-man in the whole country would demand them all at once when announced. The bee-men did not look at it that way. Then I devised a honey-extractor to take frames in the same position they are in the hive. I named it the "Paragon," and I supposed that every up-to-date bee-man would want a "Paragon." I had just one model made to begin with—and I am glad I had only one, for I finally disposed of it at just a little below cost.

Just now I am deeply interested in a new gas-oven for melting granulated honey, so constructed that the honey will get away from the heat as fast as it becomes fluid, and I am wondering if my oven will be a bubble. Anyhow, I have in stock at all times a complete stock of Root's Standard Goods, and my patrons assure me of their satisfaction in the fact that any thing listed in my catalog has been tried out, and can be depended on for perfection in principle and honest workmanship. I find that it is just as desirable to weed out undesirable articles as to be up to the minute on new novelties.

If you have not received my catalog let me send it to you. It will cost you nothing, and you will probably be reminded of something that you had intended to get with which to save labor and increase your profits.

BEESWAX.—I am now paying 28 cts. cash or 30 cts. in trade.

HONEY.—At this writing I have stored in my basement more than 500 five-gallon cans of very finest extracted honey in new cans. Bee-keepers as well as dealers are buying this honey, and it is entirely free from any honey-dew. Fancy comb honey is also arriving from Michigan and Wisconsin, but thus far all lots have been sold before arrival. If interested, write for my monthly quotations and samples.

**Root's
Goods
at
Root's
Prices
with
Pouder
Service**

Walter S. Pouder, Indianapolis, Indiana

859 Massachusetts Avenue

GLEANINGS IN BEE CULTURE

Published by The A. I. Root Co., Medina, Ohio

H. H. ROOT, Assistant Editor
A. I. ROOT, Editor Home Department

E. R. ROOT, Editor

A. L. BOYDEN, Advertising Manager
J. T. CALVERT, Business Manager

Entered at the Postoffice, Medina, Ohio, as Second-class Matter.

VOL. XXXVII

AUGUST 15, 1909

NO. 16

EDITORIAL

BY E. R. ROOT.

BE sure to read our honey-crop report on page 508 of this issue. If there are any inaccuracies we shall be glad to be advised of it.

HONEY CROP IN CALIFORNIA LARGER THAN AT FIRST REPORTED.

THE following letter from one of our California subscribers will speak for itself:

Mr. Root.—I note what you say relative to the California crop. You may be right, but there must be a good deal of honey somewhere around here, because I am buying nice amber comb honey at one of the two best stores in Oakland at 10 cts. per square, and have noticed it for sale in the windows of two other stores at the same price; also fancy white at 15 cts.; but at our house, where there are four children, we think the amber honey just as good as the white. Certainly they both go equally fast. I also notice that over 10 cts. the sale of comb honey is very slow. It seems to take a ten-cent piece to move it freely. W. H. PEARSON.

South Berkeley, Cal., July 23.

We should be glad to have other bee-keepers of that State advise us of the conditions. We bee-keepers of the East are very much interested to know just how much of a crop has been secured in that State.

WHAT TO DO WITH DARK OR UNPALATABLE HONEY-DEW.

FROM reports of the honey-yield on pages 508 to 511, it is apparent that a large amount of unpalatable honey-dew has been gathered. What to do with it is a serious problem. It can not be sold in the open market as table honey, except in cities where the foreign population largely predominates; and even then it can not be disposed of except as a honey-dew honey. It is, however, very satisfactory for baking purposes, and where one has a considerable quantity of it he will do well to correspond with the National Biscuit Co.

Where one has only a small quantity he had better feed it out for brood-rearing early this fall if possible. We certainly would not advise letting the bees have it for a winter food; that is, if it is almost all honey-dew. A little of it in white honey will do no harm.

“I TOLD YOU SO.”

It will be remembered that on page 86 of our issue for February 1st, our friend Virgil Weaver predicted that there would “not be ten per cent of a white-clover crop east of

the Mississippi River.” He based this conclusion on the severe drought of last fall. While his prophecy for all the territory named did not come true by considerable, yet in *some sections* of the country, at least, it is very apparent that the drought of last fall did curtail or cut down the clover yield. Possibly our friend will now say, “I told you so.”

If it had not been for the mixture of honey-dew in the clover honey that was gathered, the clover crop for the territory east of the Mississippi would run from one-third to one-half of a normal crop.

On the other hand there is no denying the fact that Mr. Weaver, on page 86, put forth some general propositions that have come awfully near being true for many sections of the country.

FOUL-BROOD BILL TO BE PRESENTED TO THE SOUTH DAKOTA LEGISLATURE.

THE bee-keepers of South Dakota have organized what is called the South Dakota Bee-keepers' Association, the first meeting being held at Sioux Falls. The first action taken was to draft a bill to submit to the legislature, providing for the appointment of a foul-brood inspector for the State. While the meeting was not a large one, the character of the men back of it is such as to insure its success.

Foul-brood laws should be enacted in every State in the Union. A preliminary and a *necessary* step as well is to form a State bee-keepers' association, for an organization of that kind has far more influence with the State legislature than a body of some three or four men who appear to be lobbying single-handed, and with the apparent purpose of securing a State job for some one as foul-brood inspector.

SWEET CLOVER SHOULD NOT BE LEGISLATED AGAINST.

OUR agricultural papers are coming more and more to recognize sweet clover as a good fodder plant; and yet in spite of that fact, and the further fact that it is one of the most valuable honey-plants we have, coming on after white clover and basswood, many of our State legislatures have outlawed it, requiring it to be cut down, while the oxeye daisy, the wild carrot, and the Canada thistle are allowed to grow unmolested. Sweet clover grows on land that will produce nothing else. Cultivation *always kills it out*, so it

can never become a nuisance to the farmer. Bee-keepers should take pains to spread these two facts regarding the value of sweet clover as a forage plant for stock. Be sure to tell your farmer friends that stock may be taught to eat it. After that they will often hunt it out to the exclusion of every thing else.

Sweet clover is one of the most valuable honey-plants in the country, and bee-keepers should get their farmer friends to ask their legislatures to repeal that section of the statute that classes it as a weed.

THE USE OF ROBBER-TRAPS IN A BEE-YARD.

We are using with considerable satisfaction a couple of robber-traps at our home yard. After the honey-flow is over, robbers are often disposed to interfere with the work of the apiarist. A couple of robber-traps are placed in the yard, and these traps apparently catch nothing but old robbers whose presence in the yard is a constant source of annoyance, and a menace to the weak colonies. They had better be dead than alive.

For the benefit of our newer readers we would say that the trap is nothing more than an ordinary hive having a bee-escape so arranged inside that the bees can enter the hive but can not get out. Sweet is placed inside to bait all would-be robbers. In their various prowlings around they finally locate these hives, enter them and stay there for good. As the amount of sweets placed there is not sufficient to do more than bait the bees, they soon starve.

Possibly this may seem like cruelty to animals. Perhaps they ought to be killed more speedily by brimstone; but certain it is, that, after they learn their bad ways, they are of no further use to their owner.

A little later on we will give a cut and description of the trap we have adopted.

THE REVISED BALDRIDGE METHOD OF TREATING FOUL BROOD.

In our issue for Aug. 1, pages 451 and '2, we gave the Baldridge method of treating colonies for foul brood—a method by which all healthy brood could be saved. This we took from the *Bee-keepers' Review* for 1894; but Mr. Baldridge calls attention to the same plan that he revised, and again gave in the *Review* three years later, on page 321, 1897.

I prepare an empty hive by filling the brood-chamber with a set of frames—less one or two—filled with foundation or simply narrow strips of the same. I go to any strong healthy colony and remove one or two combs of brood, with or without the adhering bees, and place the same in the prepared hive. As gently as possible I reverse the diseased colony, or turn it end for end, and move it sidewise the width of the hive, or a trifle more, and leave the bee-entrance open. When this is done I place the prepared hive on the old stand, but with its bee-entrance in the opposite direction. This may aliy be done any time in the forenoon or when the bees are busy getting honey from the flowers. The bees will, on their return from work or play, enter the prepared hive and remain there, and within two or three days the main force of the matured bees will be transferred to their old location.

Toward sunset blow a few puffs of smoke upon the caged queen, to drive the bees away from it, and then

transfer the queen to the colony in the prepared hive. She may be given her liberty at once, and by way of the bee-entrance. Now close the bee-entrance of the diseased colony so that no bees can pass in or out except through the bee-escape, and gently reverse the hive again so that both hives will now front the same way. Both hives should now stand close together, or within an inch or so of each other. From now on, all the bees in the diseased colony must pass out or through the bee-escape; and as they can not return, they must and will go into the prepared hive. In about three weeks all the healthy brood in the diseased colony will be hatched out, and soon thereafter all the bees will be found in the prepared hive, and no loss of either bees or labor. The contents of the diseased colony may now be taken to some proper place and be disposed of by burning the same. This is best done in a room or building to which no outside bees can gain access and get at the honey. But it is not necessary that this should be a total loss. Such combs as contain honey and are free of diseased brood may be extracted and saved for table use, and the empty combs melted and made into wax—those that contain brood may as well be burned up at once—frames and all—as the cost of replacing them nowadays is but a trifle any way.

By this time the prepared hive will or should be full of both comb and brood, and without any foul brood or any trace of the disease. In fact, it will be and remain a healthy colony. At least that has been my experience.

It will be noted that this is practically the same as the one he gave in 1894, with this difference, that he uses a modern bee-escape and reverses the entrance of the old hive for a short time. After this he puts it back with the entrance pointing in the same way.

REVISED 1909 HONEY CROP AND PRICES; GENERAL OBSERVATIONS ON THE HONEY-CROP REPORTS AS GIVEN ON PAGE 508.

In the honey-crop reports given elsewhere in this issue, perhaps some of our readers may be a little confused over the conflicting statements; but out of the mass of information a few facts seem to be clearly brought out.

In the central-northern States there appears to be a large amount of honey-dew honey gathered. Particularly is this true in Ohio, Indiana, and Illinois. The latter State has hardly any thing, for there seems to be an almost entire dearth of white honey. This is, no doubt, due to the drouth of last fall, which killed out the white clover. In Ohio and Indiana there is some white honey, but much of it is impaired by a general admixture of honey-dew. In Michigan there appears to be some honey-dew and quite a quantity of white honey. This latter will average from 25 to 50 per cent, and in some sections there has been a very fair average.

Crossing over into Canada we find but very little honey-dew and a good crop of white honey.

In New York the yield is variously reported from a half to a full crop of white honey. The same is true to a great extent in New Jersey and the New England States in general.

In the States south of the Ohio River the reports vary considerably from full to no crop. Crossing the Mississippi River we find some honey-dew and considerable white honey in the Southwest.

Throughout the alfalfa regions, with some exceptions, there has been a fair average

crop. In Texas the yield has been good in some localities and indifferent in others.

PRICES FOR 1909.

In a general way we may say that there will be a good supply of alfalfa honey and a fair yield of California sage. This will have a tendency to ease up prices somewhat in the West.

For the Eastern section of the country it seems to be now reasonably certain that the crop of strictly pure clover, or clover and basswood mixed—that is, honey without honey-dew—will be light. During September, October, and November, prices on such honey should be considerably in excess of what they were last year, providing the influx of Western goods does not have too strong an effect.

There will be considerable clover honey, or clover and basswood with a little honey-dew in it—not enough, however, to affect materially the flavor or color. This ought to have a fair market, and bring fair prices for table use.

Where honey-dew is very plainly present we advise selling it for bakers' use, or for stimulating for next spring. It should not be used for wintering. If sold it must go under the name of "honey-dew honey"—don't forget that, or Uncle Sam may exact a heavy penalty for misbranding.

DO NOT SHIP HONEY WITHOUT FIRST SENDING A SAMPLE AND GETTING PRICES.

NEARLY every year we hear of small producers who every now and then send a consignment to a commission house without first learning whether there is a market for it. A few days ago a bee-keeper sent us a small shipment of comb honey which he thought was very nice, and on which he believed he ought to realize 13 cts. per section, since it was nicely filled out, and the sections were 4×5 . An examination showed that some of it was almost pure honey-dew, very inferior in quality, and dark in color. Some of it was largely honey-dew and clover mixed with it, and the rest of fair quality of clover.

We wrote back, saying that, so far from realizing 13 cents on that which was pure honey-dew, or largely such, that we hardly knew what to do with it but to melt it up and give him credit for the wax, and the honey at a price which he would not accept.

We very much fear, that, if producers go to shipping this abominable stuff in sections, no matter how well they may be filled out, the market will become demoralized. *Keep it at home.* The average commission man can not afford to go to the expense of melting up such honey; and even if he does, the cost of doing so with such appliances as he may have, will very nearly equal the value of the honey and wax after they are separated.

If an intelligent consumer bought such honey he would be pretty apt to say that it was not pure, and he would be right, for, although it is gathered by the bees, *it is not honey.* No such consumer could be blamed

for being afraid to buy honey again after having once bought honey-dew.

SELLING FOR CASH OR ON COMMISSION; A WORD OF CAUTION TO THE UNINITIATED.

FOR the benefit of our newer readers we find it necessary about this time to put in a word of caution about selling honey to irresponsible persons, or selling to commission houses which, in times past, have treated some of their patrons unfairly, not to say dishonestly.

As a general thing, we consider reliable those who quote prices regularly in our Honey Column. It sometimes happens that a new commission man will get hold of your name and make you a private quotation far above the general market, saying he will give you prompt service, and guarantee you a large commission.

Look out for such a party. He may be honest. If he is not, and once gets your consignment, he may write back and tell you that the honey was badly broken in shipping, and that the best he can do will be to give you about half the original quotation. You have no means of knowing whether the honey is broken or not, and if it is not smashed or damaged, and you accept his statement, he can sell the honey at as high a price as he pleases, and give you only half price, or less than that, as he will take out his commission.

Another fact that it is well to bear in mind is that, if you sell your honey outright, *be sure that the buyer is responsible.* If he is not, you practically have no recourse in law. Better sell on commission to such person, because you can then compel him to make some sort of return. If he keeps both your honey and your money he is liable for embezzlement.

If, on the other hand, you contract to sell him outright at a certain figure, and he makes a sale to a third party, and fails to make returns, there is nothing you can do if he is not responsible. If he is collectable you can bring suit, but that will cost more than the value of the honey if the shipment is small.

So whatever you do, be careful with whom you are dealing. If the party is not responsible, or if you can not find out any thing about him, send the honey to yourself at the point of destination, and the bill of lading to some bank with instructions to turn over the bill of lading to consignee as soon as he pays for the honey. Where a firm is known to be responsible, and has a fair reputation for square dealing, such procedure is not necessary.

In a general way we would say it is more satisfactory to sell for cash, although it sometimes happens that an honest firm will really secure a higher price when it takes honey on commission. In that case the producer shares the risk of the price not going up, or, worse yet, going down; while if the honey is sold outright at a definite figure the buyer takes all the chances of possible advance or slump in price.

STRAY STRAWS

BY DR. C. C. MILLER

M. BONHOTE, *Apiculteur*, 273, says there is less swarming when drawn combs are used in extracting-supers than when foundation is used. Of course.

WESLEY FOSTER, it may be bees don't always do alike; but when I've put an empty section-super under a partly filled one in a waning flow, the bees have kept on with the old super and left the lower one untouched.

IN SPITE of what poets say, says Gaston Bonnier, *L'Apiculteur*, p. 248, bees are never seen on roses. Oh! but they are here, professor! In times of dearth they trouble by tearing open my rosebuds, and this year they worked busily on Crimson Ramblers.

R. C. AIKIN, *American Bee Journal*, p. 241, dares to question the venerable belief that "no bees work so hard as a newly hived swarm." He says there is not much activity until sufficient comb is built to receive eggs, nectar, and pollen. I might venture to add that there is no marvelous activity for some little time before the swarm issues.

REPLYING to footnote, page 445, it is well known that in an upper story comb will be built down to the bottom-bar more readily than in the lower story. The bottom is out of the cluster, slower work is done there, and if honey is coming in slowly the bees may begin gnawing the lower end of a splint, and, having begun, they are likely to follow it up.

TWO MEN whom I hold in high esteem, one on each side of the big pond, have said that when queenright bees start queen-cells they select *larvae* over which they construct the cells. One of the things that I feel pretty sure I know about bees is that they don't always do that way, for I've seen hundreds of queen-cells containing eggs. What proof is there that they ever do? In other words, when bees make preparations for a prime swarm, or for superseding a queen, do they ever start a queen-cell with a larva in it?

ALLEN LATHAM, your plan of waxing foundation to bottom-bar when using foundation-splints, p. 411, is better than split bottom-bar without waxing. I now use both. The split bar makes it easy to have a true fit. Waxing, I think, helps to prevent gnawing under the foundation. [We are getting quite a number of favorable reports regarding the use of the Dr. Miller foundation-splints. We should be glad to hear from others who have tried them. It has been found in a few cases that the bees will gnaw the wooden splints, and to some extent tear away the foundation around them. What we should like to get hold of now is the *conditions under which* bees will do this and when they will not.—ED.]

THE *Canadian Bee Journal* quotes a Straw, page 330, with Editor Root's argument, "If both honey and pollen are present in the

same blossom, it would seem very strange if the bees ignore the honey and take *only* pollen." To this it might be replied, "It would seem more strange if the *greater portion* of the bees should ignore the pollen and take only honey." And we know that's just what happens. But Editor Hurley comes to the scratch by saying he watched a bee sinking its head down deeply into each flower, the pollen meanwhile accumulating on its legs. Now some one may say, "But the bee was getting only enough nectar to stick together its load of pollen, with perhaps a little for lunch."

SWAN ANDERSON understands that foundation-splints can be used only when there are split bottom-bars or foundation is waxed to bottom-bar. Friend Anderson, there's no advantage in a split bottom-bar except that it makes it easy to have an *exact* fit at the bottom. I'd rather have a plain bottom-bar than split, if foundation is cut true and waxed to bottom-bar. But either way is too much trouble, he thinks, when he must annually throw his bees on to foundation because negligent neighbors keep up the supply of foul brood. Well, even if you use only starters coming part way down, according to Mr. Crowther, in whom I have much faith, you may still use splints. Please try them long enough to reach from top-bar to within $\frac{1}{2}$ inch of lower edge of foundation. [We should be pleased to get general reports from those who have used the Dr. Miller foundation-splints. Many thousands of them have been sold for staying foundation; and if this item reaches the eyes of any of the users, we should be pleased to have them give us a report of how they like them.—ED.]

MR. EDITOR, why don't you look how bees fly for yourself, instead of making me go on a hot day to look for you? Well, I'm nothing if not accommodating, so I went and watched the bees playing. Nearly every bee, as it flew back from the entrance, went uphill, but some seemed to go downhill and some on a level; but it was hard for me to be sure, they darted so quickly and in such a confused way. Then it occurred to me that the entrance being so low they were largely compelled to rise as they went backward. So I found a place where they were "up in the air." There they flew backward, mostly down hill, and some on a level. How do Medina bees do it? [Why, bless your heart, doctor, we have been watching the bees flying at the entrance of a number of colonies, before we prepared the footnote to the question of our correspondent who asked if bees could fly backward. We saw no cases where the bees flew backward on a horizontal line like a humming-bird; but we did see them slide backward as if down hill. We also saw them turn abruptly about and fly in the opposite direction. We have been out again and looked over the entrances of a number of colonies, but we have not found any that go back on the same level. May be if we look long enough we will see exactly what you find.—ED.]

BEE-KEEPING IN THE SOUTHWEST

BY LOUIS SCHOLL, NEW BRAUNFELS, TEX.

TEXAS PROSPECTS.

Texas has been blessed with heavy rains the last few weeks, after one of the longest-continued drouths that most bee-keepers here have experienced for years. But what this will mean for the honey crop for this season? is the question.

In that great Southwest Texas, the leading honey-producing part of this State, the rain may be too late, because the honey crop is harvested there much earlier in the season. The crop has been a very short one, and the quality of the honey has also been poorer than in any previous season.

It may be that some of the main shrubs might put on extra growth, and thus give a late yield; but this is very unusual.

In these parts further east and north, especially in the great cotton belts, the rain has wrought wonders in that it put vigorous growth into the cotton-plants, and nectar secretion was abundant; consequently the bees have been rolling in plenty of it from this source. The quality is the finest we have seen for years.

The mesquite yields in nearly all portions have not been up to the ordinary; and as this covers the greatest area of honey-producing territory in South and Southwest Texas, the unusual shortness of the crop can be easily accounted for.

In many parts the bees were at the point of starvation before the rains came. There are still many places in the State where no honey will be obtained this year; and the crop of the great Lone Star State will, consequently, be a short one. The prices will be good, and the demand strong; so those who have secured a crop will be quite well off. I would advise all who have been so fortunate as to obtain a crop of honey not to sell it at *any old price*. I know of several who did so this spring; and the result is that the market generally is ruled by these low-priced lots. Why work hard all the year, making a small crop of honey, and then sell it in a few minutes at a small price? It seems small of those who still do this.



QUEEN OR HONEY EXCLUDERS?

Years ago, like all beginners, I had to have queen-excluders to keep the queen down. Later I found that I was not only keeping the queens down but the *honey also*; since that no excluders for me; and although managing more than a dozen apiaries I have not a single queen-excluder in all my thousands of dollars' investment. They are expensive in price in the first place, but that is little as compared with their expensiveness on the hive. There may be ways of using them, or locality may have something to do with making them less objectionable, but not here.

Very few, comparatively, of our Southern bee-keepers use them. Many who have tried them do not now use them nor speak well of them. Others, who think it is better to keep the queen down with an excluder, I find do not produce as large averages of surplus honey. One such has admitted this to me, saying that he got the most satisfaction out of their use from the fact that he then knew that none of his queens could go up into the supers in case they want to do so. In his case *I know* that they are "honey-excluders."

Many arguments have been heard in their favor; but the only object is to keep the queen out of the supers. Since there are other ways of accomplishing this, however, there is very little use for the extra expense of excluders, both "queen" and "honey." If one studies out the cause of a queen going above he will find a reason for her doing so, and the hives should be manipulated in such a manner that this is prevented.

In our practice we find that the queens are very anxious (?) to go above early in the spring if an upper story is on. The warmth of the hive causes this at this time, and it would be folly indeed to confine her below. If she does not go above until later in the season it is often because she has insufficient laying room below. Of course other minor causes have to do with this also. But we find that all our *good* queens will need more room than the ten-frame hive below at this time, and hence we prepare extra super room for her. Out of this she is later crowded as honey is stored in it when she returns below. The result is, she finds a fine place there, lots of room not clogged with honey, and she remains contented the rest of the season if the bee-keeper knows how to keep the honey out by giving plenty of super room above. These extra supers are given underneath the first super now.

The brood-chamber is in an ideal condition from the above practice; the queen remains in it contented, and an extra-strong colony results from the queen going above early. With such conditions no excluders will be needed the rest of the season. Allow the brood-nest to be clogged, and the queen goes above. Keep her (and the honey) down with an excluder, and you cripple the colony and lose in surplus honey.

A KIND WORD IN REGARD TO OUR POULTRY DEPARTMENT.

Mr. Root.—We wish to express our appreciation of the poultry department of GLEANINGS. While there is but little space devoted to this department we feel that we are getting more real benefit and use from it than from the poultry publications for which we subscribe. The exposure of fake advertising and fraudulent appliances has saved us the price of GLEANINGS several times over, and we hope you will continue the good work, enlarge this department, even if it necessitates the change in name to GLEANINGS IN BEE AND POULTRY CULTURE, and cover a field as fearlessly and impartially as you have started. Such poultry editors are the ones the business needs.

We believe that flowers in the shape of kind words are of more use while living than either kind after one is dead; and as such these few lines were intended. Pinole, Cal., July 19. C. L. TOWNES.

SIFTINGS.

BY J. E. CRANE, MIDDLEBURY, VT.

A good deal has been written of late about uncapping-machines. I am more interested this year in getting combs to uncap than in any new way of uncapping.

On page 264 Mr. Holtermann speaks of failing queens. I have this year many more young queens (last year's) than I had at the close of the swarming season last year, showing that many were reared in August. I have also had a good many fail through May and June.

Mr. Doolittle tells us, page 266, May 1, how to detect a failing queen. This alone is worth more than a year's subscription to GLEANINGS, as the removal of such a queen and replacing with a young laying one in May or early June may make several dollars' difference in the amount of honey the colony will store.

I notice the editorial on page 259, May 1, on the value of some substitute for natural pollen. How would it do for some of us who have a great deal more pollen in our combs than is needed, to furnish it to those who lack? It is evidently of more value in some sections in spring than combs of honey. I think I could supply quite a quantity next fall.

Much has been written during the past winter to show that white clover was not killed by drouth. Our pastures and meadows and roadsides answer the question more truly than any writer can do by their almost entire barrenness of this kind of clover, notwithstanding the past winter and spring were of the best for this plant. Severe drouth does kill white clover.

Page 267, May 1, Mr. Tillinghast gives us some interesting facts, and pleads for larger apiaries, even the size of Mr. Alexander's. It looks well on paper, but I fear that in this section the results would be very unsatisfactory. Three years ago it would have worked; but two years ago and last year, and again this season, if all my bees had been at the home yard the failure would have been very great. Three of my yards this year will give a moderate crop, owing to the fact that they are where there was more rain last season, while the rest will not much more than pay expenses, as it looks now. See?

I was much interested in some facts and illustrations on page 281, May 1, by E. D. Townsend, on wiring frames. I believe we are all making a mistake in wiring. The illustration Mr. Townsend gives is typical—

one wire a little above the middle, with one below and another above. Now, I have seen a good many combs that sagged, but I can not recall a single instance where the cells were stretched out of shape for more than two inches below the top-bar in Langstroth frames, unless caused by overheating or lack of ventilation. Even foundation without wire or other support will rarely sag for more than the upper two inches. Wiring does not wholly prevent this, even with medium foundation; and I raise the query if it would not be better to have all three wires cross the upper part of the frame rather than place one below the middle.

Dr. Miller's method of checking swarming is sound in a general way, but we can not all work it out as successfully as he does, page 301, May 15. The bottoms of my brood-chambers are nailed fast with less room than his. If I destroy queen-cells, as I often do every eight or nine days, I find the bees will destroy the queens, or at least they disappear, leaving the hive queenless. Many of my queens, after preparation for swarming has begun, refuse to lay to any extent until they are removed to a nucleus, or swarming given up; and if I remove them I find it difficult to get them introduced successfully again. I find it also unsafe to leave a hive during swarming time for ten days, as the bees will rear and hatch a young queen in less time, and may swarm out with her; and I believe that, where the colony is strong, the queen of good age and prolific shaking has given me the best results.

Perhaps no clearer or better statement has been made of the value of shaking than on p. 313, May 15, by Mr. Williams, to stimulate bees to greater industry. I am more and more impressed each year with the effect of certain conditions on the industry of the colony. The superior industry of a new colony is proverbial. The improved industry of a colony with a young laying queen, and extracting the honey from combs and returning to the colony is another. Removing the queen and a part of the bees to a new location works wonders sometimes; and last, but not least, is taking away the brood and giving empty combs in their place, or "shaking." Only yesterday I was noticing how rapidly some colonies shaken nine days previously had filled their hives with honey and brood, notwithstanding the very unfavorable weather. I could not help noticing how the hives of such colonies were full of honey while the bees not so treated looked small and seemed to be doing little. I have found in fair seasons such colonies will store quite as much surplus, besides having more in their brood-chambers, than those that have not attempted to swarm. Unless such colonies are strong when shaken I have found it an advantage to give them a comb or two of brood after a few days from shaking.

CONVERSATIONS WITH DOOLITTLE

AT BORODINO, NEW YORK.

FEW UNCAPPED SECTIONS IN THE FALL.

A correspondent writes, "I am a reader of GLEANINGS, but do not see in it any thing about the main thing I am most interested in just now, which is, how to avoid a lot of uncapped sections in the fall."

I think myself that we have spent much more of our time discussing and writing about how to manage our bees so as to secure the greatest yield of section honey than we have about securing this section honey in the best shape for market. But comb honey is not so valuable unless thoroughly sealed or capped over, therefore managing our bees so as to have few uncapped sections in the fall is a question of nearly as much importance as the one about which so much has been written.

For years I was troubled by having from one-fourth to one-third of the combs in the sections not fully sealed at the close of the honey harvest, the best of which were salable only at a reduced price; but of late I have few such, even in a poor season. After experimenting for several years in all lines touching this matter I became convinced that the cause of the trouble was in giving the bees too many sections, and especially conducive to this was the plan of tiering up sections late in the season. To tier up sections profitably requires considerable skill, which should include a thorough knowledge of the honey resources of the field occupied.

I think that there has been too much injudicious talk during the past along the line of not allowing the bees, under any circumstances, to cluster on the outside of the hive, the prevailing idea seeming to be that bees need more room when they thus cluster out. Now, I claim that it all depends on when this clustering-out occurs whether more room is needed or not. If such clustering-out occurs at the commencement or in the height of the honey harvest, then more room should surely be given; while at the latter part of the harvest, or at any time of honey dearth, no more room is needed, for more room at this time results in the one case in many unfinished sections, and in the other in an absolute waste of time in enlarging the hive, besides the chance of having the foundation in the sections covered with propolis, which makes the bees loath to use it afterward, or having this foundation badly chewed up during this term of idleness. Allow me to illustrate.

During some seasons we have but a very few days of nectar secretion, and those often come after the flowers which produce the yield are rather past their prime. At such times we often do not have on the hive one-half the capacity which we would use in a good season, and for this reason the bees begin to be crowded out. Hoping that the conditions may be good during the rest of the time that the flowers are in bloom, we give double the room to our colonies, only to have the weather turn bad again, thus giving us

only partly filled sections in the fall; while, had we left them as they were, nearly or quite all would have been finished. Years ago I was caught several times in this way, and especially in basswood, as from this source honey comes in very rapidly at times for a day or two so that it looks like a bountiful harvest, when a change of temperature and conditions may occur suddenly, and continue unpropitious to the end of the nectar supply from this source. At such times the tiering-up plan is almost sure to result in many unfinished sections. After being caught several times in this way I resolved that in no case would I tier up sections after the middle of the flow from any one source, and to this I have strictly adhered, much to my advantage, for the past ten or twelve years. The supers with baits are put on first; and if the clover harvest is only fully under way when this super is from half to two-thirds full, then it is raised up and another super put under it. But if the season is quite well advanced before such an expansion of super room seems to be needed, then I put the next super on top of the one already on. When basswood arrives, if it begins to yield soon after the bloom opens, and there are supers of white-clover honey from one-half to two-thirds full, then such supers are raised up, and empty supers, having sections filled with foundation, are put under. But if the season for basswood gets quite well advanced before much honey has come in, and before the bees begin to need more room, then the super is put on top instead of underneath. And the same is applicable to the flow from buckwheat.

Quite a few bee-keepers seem to think that it takes away from the prospect of a good yield of section honey to put the empty sections on top of those already being worked in, instead of underneath; but from ten years' experimenting and experience I fail to see any difference in results. I know that I really used to believe that, by putting a vacant space between the brood-chamber and the super being worked in, the bees would work with redoubled energy to fill this space, so that far more honey would be obtained. But so far as I can see, such is not the fact. Several colonies of as nearly equal strength as to working qualities as possible to judge, a part of them worked on the tiering-up plan during the season, and the other part by giving the empty supers at the top, would vary little if any as to the number of *pounds* of section honey produced. But those having the empty supers placed at the top would have their *pounds* nearly all in well-filled and finished sections, while those tiered up would give many lean and poorly filled sections, together with many sections not sufficiently capped to be marketable, except at a reduced price, if marketable at all. The difference in the finishing was very noticeable, where I had, say, twenty colonies, which I thought needed two supers each, on ten of which the second super was put underneath, on the tiering-up plan, the other ten having this second super put on top.

GENERAL CORRESPONDENCE

HONEY LOWER IN PRICE THAN OTHER FOODS.

The Price Could be Raised by a Vigorous Organized Effort.

BY J. E. CRANE.

Mr. Root.—Enclosed is a letter I recently received from W. J. Lewis, of St. Louis. He makes some pretty good points that may be of interest. The advertisement he refers to, of pineapples, is found in the January issue of *World's Work*, and a good one it is. I fear we have not sufficient money to advertise so fully; but may be it would be well to try it.

Middlebury, Vt.

[The following is the letter which Mr. Crane mentions. We believe it is worthy of the attention of every reader.—ED.]

Mr. J. E. Crane.—You speak of Wesley Foster's experience in selling honey, and remark that you have sometimes thought it would pay to organize and place peddlers (solicitors) in every city of any size in the country. We think there should be more written or said on the subject of selling honey, in our bee journals.

We took up bee culture five or six years ago as a novelty or pastime; but it has become a "side line" now, as we have 200 colonies. Like all bee-men we studied every thing we could get hold of as to how to raise more bees to produce more honey; but now the problem is how to get a fair price for the product.

We think we get less for our time spent with our bees than for any thing we follow; and if it were not for the love we have for the business we would soon drop it.

If the bee-men would organize and place a price on their product as the Elgin butter-makers do, it would not be long before 4 lbs. of honey would be worth more than one of butter. Think of honey being dumped in this city at five or six cents a pound!

The big bakers and candy-makers are the ones who derive the benefit from the low prices instead of the man who occasionally buys a small amount of honey for table use. You say the grocers "do not seem to like to push the honey trade." They don't care to handle honey, because the producers of it never help push it. Who ever heard of the honey-producers advertising in a newspaper? Americans eat whatever they are told to eat by the advertisements in the press. They don't eat honey, because nothing is ever said about it where the subject is constantly before them.

Comb honey is sent to the commission man in the same old style of glass-front cases that it was sent in 25 years ago. The city grocer having a small trade generally keeps a case just to be able to say that he has honey in stock. It is not because he wants to handle it. He usually keeps it away back in some corner, out of the reach of flies. You may ask how the producers of honey can better themselves. You have touched the keynote—by organization, then advertising. We inclose an advertisement from an association of pineapple growers in far-away Hawaii. Think of this handful of men pushing their product before the people of this country, and compare it with the old sleepy ideas of the great army of bee-keepers!

We manage to sell our honey at a fair price when compared to what others get, and we are certain we could get more if there were more working on the same basis for a better price. We receive as much as 18 cts. per section for our honey from the grocers, who would rather handle it at a small profit and at a high price, because we help them to put it before the people with our guarantee on every section.

In our opinion, those who write for the bee journals should take up this matter. If we depended entirely on the production of honey for our living we certainly would want to be better paid for our time. A plaster-

er working 8 hours in this town earns \$8.00 to \$7.00 per day—enough to buy 60 to 70 pounds of the best honey. A bricklayer would get almost as many pounds for one day's wages. The candy-maker buys honey at 6 cts. makes it into Mexican penoche, and sells it at 40 cts. per pound. He ought to pay more for the honey. I don't think the bee-keeper is getting a square deal; besides, he is getting stung often.

St. Louis, Mo., Jan. 9.

W. J. LEWIS.

[Some years ago an effort was made by bee-keepers and supply manufacturers to form a honey-producers' organization which would have for its main object the advertising of honey. A large fund was subscribed, the proceeds from which were to be used for advertising honey in the popular journals. But about this time a few bee-keepers began to be suspicious that the manufacturers of supplies were too much interested, and that there was a sinister motive back of the whole proposition. There was absolutely nothing in this; but the movement was checkmated, and it was finally decided to turn the funds that were gathered all over to the National Bee-keepers' Association and have only one organization. This was eminently proper, but no provision made for some one to take hold of the advertising end of it; Mr. France, General Manager, was already overburdened with other work of the National, and, as a result, comparatively little could be done in the way of advertising honey. There is still a fund available, we believe; and if the members of the National will formulate a plan, the suggestions of Mr. Lewis, at least in part, could be carried out. There is no reason why honey should not be advertised as it should be.—ED.]

SHAKING ENERGY INTO BEES.

Not Shaking, but a Change of Conditions; is a Natural Swarm Superior to an Ordinary Colony of the Same Strength?

BY W. M. WHITNEY.

Mr. Editor.—Your comments on an item from me on page 285, May 1, also on page 313, May 15, preface an article by Mr. Geo. W. Williams on the same subject, viz., shaking bees to cure laziness, seems to call for a more explicit statement from me. By the way, accept thanks for kindly reference to my bee-keeping ability. Whether merited or not, I appreciate the compliment.

In the particular case referred to on page 285, the account given put the case clearly, it seems to me, and required no further elucidation. More room being given the bees (their environment was completely changed) and this appeared to be all that was needed. What, think you, would have been accomplished had they been shaken and put back in the same condition as before?

Other cases of apparent sulking occur, such as when a colony has cast a swarm, which condition ceases as soon as the young queen assumes the functions of the mother-bee; also in case where the queen is being superseded. Any shaking of the bees in

either of these cases would very likely defeat the very object sought—that of rearing a queen. A case of apathy often occurs when a colony allows an old queen to remain in the hive through the season, having barely vitality enough to keep the colony alive; and another where a colony is queenless. In both of these cases almost any bee-keeper knows what should be done. Shaking would do no good in either case.

To make a long story short, it is my contention that the change effected, not the manner of bringing it about, is what produces results. The hive first referred to was simply clogged with bees, brood, and honey; and had this condition continued a week or ten days longer, the colony would probably have cast a swarm. If these bees had been passed through a bee-escape into their new home; or if frames of bees had been moved, never so carefully, into their new quarters, making, say, two colonies of the one, the operation would have been just as successful as the most vigorous shaking, and would have been less cruel. I have made many such changes with the most satisfactory results.

I should like to refer to an item or two in Mr. Williams' article on page 313. One is the reference he makes to moving an apiary by Mr. Dadant. Which, think you, caused the greater activity of the bees—jolting over a rough road or changing their environment and causing them to mark their location anew, as well as to make new explorations? If shaking were all that they needed, why not set them back on their respective stands in the home apiary again?

He says, "Whenever, in going among the bees, I find a colony that, for one cause or other, fails to come up to this standard (i. e., the condition of a newly hived swarm), I shake it. This brings it up to the desired condition." I do not know that I quite understand his meaning when he thus speaks of shaking bees. If he means that he simply shakes the colony, leaving it in every other respect as before shaking, the practice seems to be very objectionable. I can hardly think that this is what he means to convey. As evidence, note the following: "A promiscuous shaking will not bring you a pound of honey unless the conditions warrant it; but if you study the above rule, and apply it whenever the bees need it, I am sure you will be pleased with the results; and this summer I want you all to select the worst old loafer you can find, and when every thing else has failed, shake it out on empty frames, with two-inch starters, leaving a frame or two of eggs and young brood to keep the queen below; and if the results are not entirely satisfactory I am no prophet."

Exactly! "Shake it out on empty frames, with two-inch starters," etc. Here is the whole matter in a nutshell. No practical bee-keeper will doubt, I think, Mr. Williams' statement as to results in the case mentioned; yet there are other ways of doing the work, or bringing about a change without shaking the bees at all.

I have yet to see a strong colony, however strong it may be, having accessible storage room and proper ventilation, during a season of nectar flow, sulking. It sometimes happens that proper attention is neglected till after sulking begins, when neither additional room nor any other means, excepting breaking up the colony, does the least good. In such case, undoubtedly, the swarming fever has been contracted, and to break it up is like attempting to break a hen of sitting. The thing to do in this case is to run the colony on to frames of foundation or starters, as recommended by Mr. Williams, or make two colonies by division in some one of the ways familiar to nearly all bee-keepers. But that shaking, pure and simple, adds any thing to the value of a colony of bees I do not believe, any more than I believe that jabbing a pitchfork at the rear end of a mule adds any thing to the quality of its docility.

You say on page 313, "There is no denying the fact that a *natural* swarm is much superior to an ordinary colony for honey production." If you mean superior to the parent colony, scarcely any one conversant with the subject will question the statement; but if you apply it to colonies built up strong for honey production, which do not develop the swarming impulse, I should say no, most emphatically. If such an idea is to be taken as bee-keeping gospel, what shall we say of the desire of Dr. Miller and others to breed out the swarming impulse? I can hardly think you meant all that these words imply.

Evanston, Ill.

[We quite agree with our correspondent in saying that giving extra room and supplying foundation, goes a long way toward preventing swarming. Just how far the shaking, as recommended by Mr. Williams, may contribute toward this result we are not prepared to say; but we are of the opinion that it has some effect. We have also had the same experience where he says that he has yet to see a strong colony sulk having plenty of storage room and proper ventilation during the season of the nectar flow. These statements will harmonize well with an article written by us in this issue before we saw what Mr. Whitney had written.

But we most decidedly take issue with our correspondent when he doubts the superior working qualities of a natural swarm over an ordinary colony of the same strength. We meant exactly what we said, nor did we have in mind any comparison with the parent colony. It was no less an authority than Langstroth. In "Langstroth on the Honey-bee," edition of 1859, p. 153, Mr. L. makes this general statement:

Although the movable-comb hive may be made more effectually to prevent swarming than any with which I am acquainted, still there are some objections to the non-swarming plan which can not be removed. To say nothing of its preventing the increase of stocks, bees usually work with diminished vigor after they have been kept in a non-swarming hive for several seasons. This will be obvious to any one who will compare the superabounding energy of a new swarm with the more sluggish working of even a much stronger non-swarming stock.

Notice particularly that Mr. Langstroth went even further than we; for he says that a natural swarm will be much better than a *much stronger* non-swarming stock.

From that day to this the greater energy of a natural swarm has been admitted by practically all authorities and writers in the bee journals up to the present time. We have ourselves, time and time again, noticed how a natural swarm will outstrip a colony of equal strength and of the same strain of bees; and one correspondent lately advised letting the bees swarm once, with all the nuisance of hiving, because, he said, they would be much more active than an ordinary colony of bees that did not swarm.

On the other hand we would not go so far as to claim that a colony *could not* be treated so as to act to all intents and purposes like a swarm. Shaking, giving new quarters or more room, empty combs or foundation might make it do so.

If Mr. Whitney is comparing a natural swarm with a colony so treated we might agree with him.—ED.]

A NEW METHOD OF KEEPING HONEY FROM GRANULATING.

Long-continued Heat from the Sun in the Solar Wax-extractor for Bringing about this Result.

BY E. B. ROOD.

[For a year or so back we have been making experiments in a small way in trying the effect of the sun's heat and its actinic rays as a means for the prevention of the granulation of honey while in bottles. While the results were not conclusive they were at least significant. We have suspected for some time that those rays of light from the sun, that bleach some substances and darken others, that make photographic negatives and prints, have a chemical effect on honey to such an extent that granulation might be arrested. Heat, we know, goes a long way in accomplishing this result. If we add to it the chemical action of light we may or may not go one step further in the process. We don't know.

Some time ago A. I. R., in his notes from Florida, wrote how Mr. Rood was keeping his honey from granulating by means of the sun's heat in a solar wax-extractor. We were immediately interested, and asked A. I. R. to get Mr. Rood to prepare an article, giving details of the method in order that we might place it before our readers.

That he has been successful to an unusual degree in keeping his honey in a liquid condition will be certified by A. I. R., and no doubt by his large list of customers who buy his bottled honey.

Ordinary heat alone will keep honey from granulating, perhaps a good part of the year; but when conditions are favorable, it is quite sure, within that time, to show a tendency to harden, or what we call candy or granulate. If Mr. Rood has been more successful than most persons in keeping his bottled honey liquid we may surmise that the other element, sunlight, has a potency for the purpose not hitherto recognized.

How far ol' Sol may prove valuable we are not able to state at this time; but as we are now in the midst of the bottling season we suggest that the subjoined article be given a very careful reading by the large number who sell their extracted honey in bottles. Perhaps some of our honey-bottlers own greenhouse sash, or perhaps they can borrow a dozen sash, for the purpose of experiment. Try the sun's heat and light, and report through these columns.—ED.]

I put up for the fancy grocery trade some ten or fifteen thousand pounds of honey annually. One of my serious difficulties has been granulation. I have attempted to teach my customers that this is an evidence of its

purity, and that it may be easily liquefied; but few of them want granulated honey, and consequently it sells slowly.

Noticing the statement in GLEANINGS several years ago that continued rather than excessive heat is important in so changing the honey that it will not easily granulate again, and having a jar of my own honey, extracted in the year 1900, that stood for months above the kitchen stove, that remained clear for years, I decided to put several five-gallon cans of honey in a large wax-extractor, with the pan removed, and leave them there for some time and then use the honey for bottling. This plan was but partially successful, for only in the hottest weather could I get the honey in the bottom of the cans hot enough so that it would not soon granulate. After this I tried square glass jars, such as I use; but after they were waxed, the wax melted and ran over the jars and made an awful mess. I then began putting the honey in the jars corked but unwaxed. This I found very satisfactory; and with a good solar wax-extractor it is possible in this climate to heat the honey to such a temperature that in a week's time it will not granulate again, even when sold. I have not yet learned how long it would take to make it granulate.

In summer I can put honey in an extractor or for a day or two and it will not granulate, if it is not too cloudy, and at such a time the temperature of the honey often rises to above 150 degrees, and remains there for many hours.

I am adopting this plan more extensively every year, and am now planning one or two extra sun extractors for this purpose, the floors to be terraced to keep the jars from upsetting. My extractors are homemade, and covered by one large glass—the larger the better.

So far I have not lined the boxes with tin, but think I will do so in the future, as the reflection will greatly increase the heat. It is important that the boxes be only a little deeper than the jars so that they will come up close to the glass.

I plan to put many jars through the extractor in the fall and have them ready for the winter trade. In the northern States it would be necessary for the bottler to do this before the cold weather; but the heat of the extractors could easily be increased by a lamp underneath, as many use them for extracting wax.

This method seems very simple, and may be known and used by many bee-keepers; but if so, they have not written it up for the bee journals. Had I known it years ago it would have saved me much time, trouble, and expense in returning jars of honey from my customers, remelting, relabeling, and sending them back again.

Bradentown, Fla.

[“Stenog,” who has been taking down these notes, offers the following bit of experience in his own home, which may throw some light on the subject as well as on the candied honey:]

In the fall of 1906 I bought a 60-lb. can of raspberry honey of W. Z. Hutchinson. It was very limpid, with no trace of granulation. We used it from the can for a while, but for convenience a good deal of it was put into jelly-tumblers. These were kept, without particular design, where it was very light. My wife said one day she wondered that these tumblers of honey did not granulate, while that remaining in the can resembled lard in appearance. It immediately occurred to me that light would at least retard granulation, and I actually wrote an article to Mr. Hutchinson to that effect; but fearing my observations were not conclusive I did not send the communication. But looking it all over now, I am convinced there is a very close connection between light and the granulation of honey.

W. P. Root.
Medina, Ohio.

PRACTICAL INSTRUCTIONS FOR BE-GINNERS.

A Modern Way of Transferring Without Cutting Combs.

BY E. D. TOWNSEND.

In modern methods of transferring bees from box hives, or from any undesirable hives, for that matter, none of the old combs are used in the new hive. With a good press, nearly all the wax can be obtained from the old combs, so that full sheets of foundation may be substituted in the new hives; and, of course, the combs drawn from such full sheets of foundation are vastly better than old patched-up pieces of combs taken from old hives.

During late years we have done none of our transferring until the beginning of the clover-honey flow in June. Mr. A. H. Guernsey, of Ionia, Mich., has successfully practiced for several years the following plan:

At the opening of this clover-honey flow, or as fast thereafter as the colonies to be transferred get strong and have their hives full of honey and brood, the cover is removed from a colony to be transferred, and a full set of good combs placed in a hive-body and set on top. The next step is to go to a colony that has brood in all stages, and select a comb, perhaps half full of brood. This comb should be one that the queen is laying in, and also one on which cells are started, but not yet occupied with eggs. The bees should be shaken off this comb, care being taken to see that the queen is left in her own hive. This comb may now be exchanged for one of the central combs in the new body that has just been set over the hive containing the colony to be transferred. After about three days, in the warmest part of the day, carefully remove this comb of brood before mentioned and look for the queen. If she is not found, look every day until she is found, and then place a queen-excluder between the two bodies, the queen being in the upper story. In 21 days the lower body can be removed free from brood, the sides knocked off, and the honey and wax saved.

Full sheets of comb foundation might be substituted for the combs in the new hive, as mentioned above, but the bees would be slower in going up into the new body if this were done, and more honey would be left in the hive below. If the cover to the old hive

is found nailed on when preparations are being made for transferring, the whole hive can be inverted and the new body containing the combs placed over it.

This transferring may set the colony back a little, but not very much after all, and it is necessary to watch the transferred colony with the rest and give super room when needed.

With the plan that I practice myself, I secure a full crop of comb honey, although the transferred colony may need some help along the line of winter stores. My plan is as follows: A super is placed on the hive to be transferred, just as on any other hive (if the old hive has the cover nailed on, it is inverted). The colony is then left until it casts a swarm, which is hived on the old stand where the old box hive formerly stood, and the supers of sections shifted to the new hive. The old box hive may then be carried away to another part of the yard. The actual transferring in this case is done 17 days later, at which time the parent colony should have a laying queen; and, since the queen before the colony swarmed did not lay very much during the last four days before the swarm issued, there will not be much brood but what is hatched at the end of these 17 days. By this time it is, very likely, near the close of the season, so that it does not pay to wait for the few bees that might yet hatch from the combs; and it is better to allow the young bees already hatched to get to work in their new quarters. A new hive filled with combs or full sheets of foundation is placed where the old box hive last stood, and the side of the box pried off, the combs cut out, and the bees brushed in front of the new hive.

Last season some of the old combs left in the box hive were run through a capping-melter, and the honey and wax separated much more quickly than we ever did it before.

Colonies transferred so late, or late swarms of any kind, ought to be hived on empty combs when possible; but if there are no combs, so that one must use foundation, no more frames should be given than the bees can finish before the close of the flow. There was a reason for not leaving the foundation in the hive during a dearth of honey, for the bees, having nothing else to do, seem to take delight in gnawing it, for to them it is unnatural. After a sheet of foundation has been in the hive three weeks during a dearth of honey it is almost ruined.

Remus, Mich.

[When it is desired to convert old combs containing honey, or other chunk honey, into cash, there is no cheaper way than to run the combined product through a capping-melter and separate the honey and wax at one operation. If the work is done properly, neither the honey nor wax will be injured in the process, for the gate of the capping-melter should be kept constantly open so that the honey and wax will run into another receptacle, where cooling immediately takes place. Honey subjected to a temperature sufficient to melt wax, for a period of a few moments, will not be in the least injured.

One can make his own capping-melter by putting one tub inside of another of a larger size, leaving about an inch between the two tubs. A tinner will have to solder a tube so that the melted product can flow from the inner tub out through the space between the two tubs, and into some receptacle where it can be cooled.—ED.]

ALSIKE CLOVER.

Alsike Should Never be Sown Alone; a Possible Solution of "Alsike Poisoning."

BY BARRET PIERNON.

In my article on alsike clover, page 198, I showed the most successful method of its culture from the dollar as well as soil-builder point of view, and I can add nothing to it along those lines.

I never heard of such a thing as alsike poisoning until I read Mr. J. L. Byer's article, page 369, and that by Mr. W. W. Case, page 429, and from long experience with alsike clover I seriously doubt that the plant of itself was the direct cause of the trouble.

Years ago, when horses were pastured here in the early summer, they were sometimes affected by a drooling from the mouth which was commonly termed "slobbers." This was attributed by veterinaries and others to the white clover, and it was generally believed to be a bad plan to pasture horses when white clover was in blossom, because of this trouble; but our agricultural college showed that it was not the white clover itself which caused "slobbering," but an insect which would lodge in the blossoms; and the animal eating the insect with the blossom would produce an irritation of the salivary glands that would cause the disease. Perhaps "alsike poisoning" could be traced to such a source.

I have always noticed that horses that had white or pink skin upon their nose, where there is but little hair, are apt to have the skin peel off and get sore, and this upon horses that were kept in a barn and were fed dry feed. We always called this "sun burn," and treated it the same as sun burn, and it would get well under the treatment.

The stalk of an alsike-clover plant is small and weak, with several branches and a great many blossoms; and for this reason it should never be sown by itself, even for seed, as it will lodge badly and be impossible to harvest without great waste.

In sowing for seed it is usual to sow about 3 quarts to the acre with 3 quarts of timothy seed, if the timothy seed is mixed with the clover and sown in the spring, or 2 quarts of timothy seed if the timothy is sown in the fall with wheat or rye. This timothy will hold up the clover and make it possible to harvest the entire crop. There will be very little timothy seed in the clover seed, as timothy is very much later the first year it is cut than the succeeding years; and what is there can be easily cleaned out with a good fanning-mill (a necessary implement which comparatively few farmers possess).

I have known of its yielding a seed crop as high as four or five bushels per acre, though two or three bushels per acre is much more common, which, at the present price of seed, is a fair return for the land considering the amount of labor invested in it; and the land will yield a good crop of mixed hay the following year.

The way alsike clover will stay in the soil may be shown by a neighbor of mine who, nine years ago, seeded a field with four quarts of red clover, four quarts of timothy, and one quart of alsike clover. Five years ago he plowed up this field, and has plowed it every year since, planting it to corn, beans, and other crops, and the alsike clover has been present all the time. It would almost seem that no amount of plowing or cultivating would entirely remove it when once firmly set in the ground.

Through the investigations of Prof. Cyril G. Hopkins, of the University of Illinois, and a great many others, we now know the usefulness of all clovers to fix the free nitrogen of the atmosphere in the soil as well as to raise other fertilizing elements from the subsoil to make them available for other crops. So those who are engaged in the pursuit fitly termed by one of its most brilliant writers as the "poetry of agriculture," should do all in their power to dispel the work of prejudice and encourage its growth, so that all may be benefited—bee-keeper and farmer alike. But by all means have it along the lines of profit, so that men may see material results.

Flint, Michigan.

NEWLY HIVED SWARMS LEAVE IN SPITE OF ALL THAT CAN BE DONE.

My new swarms will not stay in the hive, but come out and go away. The-hives are new, filled with Hoffman frames, and wired as usual. Sometimes the swarms stay a day or two, but then they come out again. I tried putting a super on top, and even put two on; but it made no difference. I have given a frame of brood, but they would come out and leave it. I put some swarms in hives filled with comb and honey. They came out just the same. I have tried sprinkling the hives with salt water, but it does no good. I think I have lost about one-half of the swarms that have come out this summer. I have never had any experience like this before. I have an experienced bee-man helping me; and he is at his wits' end to devise some way or plan to keep them. The weather is very warm. I tried setting them in the shade under a tree, but that made no difference.

If you can tell the cause of it, or give any means to prevent it, it will be appreciated. I am only a beginner. I had 16 colonies to start with this spring. Five years ago I began with one. My bees are hybrids, about half Italians.

CLIFFORD S. FORD.

Rodney, Mich., June 28.

[Sometimes bees in an apiary will get on a swarming rampage—a mania, like a smile, that appears to be somewhat contagious. The noise of one or more swarms in the air will excite other colonies until the whole apiary appears to be in an uproar.

It is advisable never to let bees get started in the first place. To that end, ample room should be provided, and the proper amount of entrance space, as recommended on another page.

But suppose the bees do get to swarming. If a colony will not stay hived, take it down cellar and keep it there for several days. In the meantime it might require a little feeding, but probably not, as almost every swarm takes a good liberal supply of honey with it. If it starts building comb, and the queen should lay a few eggs by the time you set the bees out again, it should be in a mood to stay where it is placed. The cellar should be dark and cool.—ED.]

THE RESPIRATION OF THE HONEY-BEE.

Combustion in the Animal Kingdom; an Interesting Bit of Scientific Lore.

BY DR. BRUENNICH.

All animal life rests upon a process of combustion. Generally speaking we may say that the plants of our earth store the forces which the sun sends down. With the help of these forces the plants build up from the simplest chemical combinations a great number of compound substances. The plants, therefore, represent the great accumulators, or spares, while the animals are the lavishers, or, in other words, the careless devourers, of the treasures which the plants have accumulated. The members of the animal kingdom are indeed always divorcing those compound substances, and producing by the aid of them warmth and energy.

All the aliments are composed mainly of carbon, hydrogen, and oxygen. The hydrates of carbon (sugar and starch) and the fats consist exclusively of them, while the albumens contain some more elements; namely, nitrogen, phosphorus, and sulphur. Chemically speaking, combustion, whether it is violent, as in the case of fire, or whether

it is slow, as in the case of rotting wood, or the breaking-down of tissues in the animal body, rests on the fact that oxygen enters into the domestic peace which the elements are leading in the molecule of the compound substances, resulting in the formation of new simple combinations. Thus, the combustion of the hydrates of carbon and fats results in carbonic acid and water; and the combustion of the albumens furnishes, besides these, substances of a more complex nature; namely, urea, urates, and a great number of toxic substances—the waste products of the animal body.

When we compare the animal body with an oven, the fuel is represented by the aliments, and the combustion occurs within the millions of cells which are building up the body. The ventilator (that is, the conveyance of oxygen) is to be found in the respiratory organs—the lungs, gills (or tracheas). The channels for the fumes are different. In the vertebrates they are represented by the lungs, kidneys, intestines, and skin; and in the bee by the tracheas, intestines, vessels of Malpighi, and perhaps also the skin.

The main use of the respiratory organs is to supply the cells of the body with the oxygen necessary for combustion. The atmos-



FIG. 1.—DELICATE ENDS OF THE FINELY DIVIDED TRACHEAS CARRYING AIR INTO ALL PARTS OF THE BEE'S BODY.

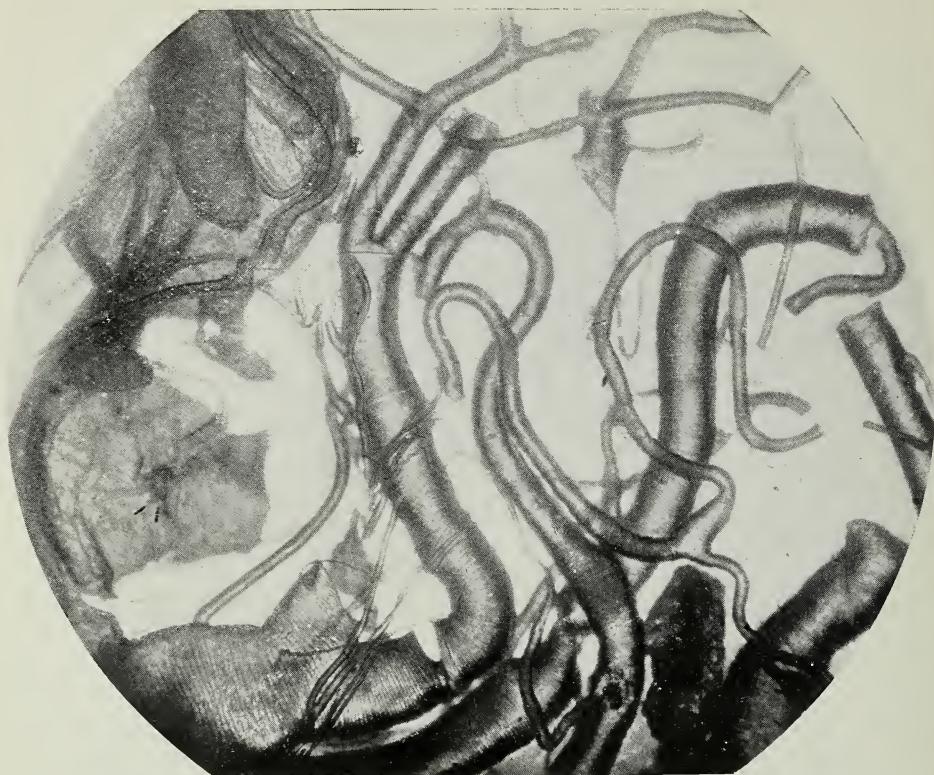


FIG. 2.—LARGER TRACHEAS SHOWING THE CHITINOUS SPIRES WHICH PREVENT THE TUBES FROM COLLAPSING.

sphere contains about one-fifth of oxygen and four-fifths of the indifferent nitrogen, other gases being present only in insignificant quantities. The combustion of organic matters furnishes, as we said above, chiefly carbonic acid, a heavy gas which is poisonous, even to a deadly degree, if it accumulates in great quantities in the body. The other aim of the respiration, then, is to remove this injurious gas from the body. *Respiration, therefore, brings oxygen to the animal cells and removes from them the carbonic-acid gas.* This result is accomplished by means of the fact that the cells are brought into close contact with the surrounding medium, whether it is atmosphere or whether it is water, since water always contains quantities of oxygen in solution. The cells are separated from this medium by only an extremely finely woven skin through which the gases may easily pass. The exchange of gases takes place across this minute skin in such a way that the carbonic-acid gas of the body is rejected while oxygen is introduced. In the vertebrates this exchange is done in the proper organs—the lungs or gills. The *blood* brings the oxygen into the various parts of the body, so that the system of circulation of the blood is very perfect and complicated. With the

bees, on the contrary, the air itself comes to all the cells and parts of the body, reaching even the most remote corners, so that the system of circulation of *air*, so to speak, must necessarily be very perfect and complicated. In the bee, moreover, the circulation of the blood, which is very imperfect, has only the task of distributing the nutritious substances and of excreting the waste products.

Let us now see how the air is carried into all the corners of the bee's body, and also how it is expelled. In the breast of the bee there are three pairs of breathing-holes, and in the abdomen six pairs, called stigmata, or spiracles, through which the air passes during inspiration and expiration. The air expelled is impoverished of oxygen but enriched with carbonic-acid gas. These stigmata are rather complicated organs, having muscles which enable the bee to close and open the holes voluntarily. Doubtless the stigmata serve also in lieu of a larynx—that is, as an instrument for producing certain sounds.

To every stigma is annexed a large bronchus, extending into the interior of the body, where it is divided into smaller branches, or tracheas. This ramification or sub-division continues constantly, so that at last the tra-

cheas become exceedingly fine hollow threads, by means of the ends of which is accomplished the exchange of gases of the body cells, such as the cells of the brain, muscles, intestines, etc. Fig. 1 shows these delicate ends on the vessels of Malpighi. In spite of the considerable magnifying, the extreme ends of these tracheas can not be seen on account of their transparency and minuteness. Nevertheless, the picture gives an idea of the exceedingly fine sub-divisions of the tracheal system.

As to the construction of the tracheas, it is well known that, in the walls of those little tubes, there are thin spiral threads of chitin which prevent the collapsing of the tubes. A compression of the tracheas is not likely; but a certain expansion of them is very probable. Fig. 2 shows nicely some larger tracheas where the chitinous spires are easily visible.

Just as the birds have large air-spaces in their bones, so we find, interwoven in the tracheas, air-bags. A trachea suddenly widens to a sac of different form, and from this sac different tracheas generally spring. The clothing of these air-sacs contains, like the tracheas, parallel wands of chitin. There are a great number of these air-sacs in the whole body, even in the feet. These sacs diminish considerably the specific weight of the bee's body, and facilitate flying. Secondly, they serve as air-vessels which prevent excessive pressure in the most minute ends of the tracheas. Thirdly, they serve as air-vessels for reserve.

When we speak of the mechanism of the respiration we must distinguish between the thoracal and abdominal respiration. It is very probable that the flying bee respires only with the breast, while the bee which is resting or walking uses only the abdomen. Before the bee flies it fills the air-sacs of the abdomen with fresh air—firstly, for lightening the body; and, secondly, for having some reserve in the abdomen, because it is not probable that the latter is respiring in flight; and abdominal respiration, indeed, is not necessary during flight, for the gas exchange takes place during flight principally in the flight muscles and in the head, which gets its air directly from the breast. The flight muscles, of course, consume much oxygen and secrete much carbonic-acid gas, the mechanical labor of the wings being very noticeable.

The air-sacs of the breast are of inferior size, for, indeed, large air-sacs here would be in the way, hindering a quick exchange of gas for the flight; the muscles lifting the wings and those lowering them contract alternately and energetically. By a certain compressibility of a part of the breast the inner room is alternately enlarged and diminished, so that the air rushes in and out, according to the rhythm of the class (two or three hundred a second). The movement of the wings and the respiration are thus closely together, being produced by the same muscles.

If a bee rests after a long flight, an ener-

getic abdominal respiration begins in order to remove the carbonic-acid gas which has accumulated in the abdomen. While the thoracal respiration ventilates only the breast and head, the abdominal respiration performs the exchange of gas in the whole body, whereas the valves of the air-holes of the breast may be working rhythmically.

The six double segments of the abdomen slide over one another like the parts of a telescope, and are movable by muscles, so that the capacity can be changed voluntarily by the bee. We know that the filling of the honey-sac or chyle stomach or rectum has a strong bearing on the size of the abdomen. Still more is this the case if all the air-sacs are filled with air. When the bee expands its abdomen, the air-valves, being wide open, the air-sacs are filled by degrees with air; then before the abdomen is contracted again the eighteen valves are closed so that, when the contraction occurs, the air is driven into the finest branches of the bronchial system of the whole body. As soon as part of the valves (for example, those of the thorax) are opened, the tension is lessened by the streaming-out of the air; and when the abdomen is contracted to its smallest size, all the air, which before rushed in, is driven out, and thus the bronchial system of the whole body is periodically provided with fresh air.

Ottenbach, Zurich, Switzerland.

UGLY BEES.

How Their Temper Varies According to the Source from Which They Gather Nectar.

BY LESLIE BURR.

Mr. Root—Your editorial about the bees being so cross during the flow of honey-dew, and the reason you and Mr. Vernon Burt give, causes me to make a few remarks on the subject.

It has been my experience that bees, while gathering certain kinds of honey, are always very cross, no matter what the weather or other conditions may be; also that, while gathering some honeys, they will always rob; yet the same bees, when working on some other plants, can not be induced to rob.

For instance, bees are very cross when gathering buckwheat honey. Coggshall, as a rule, never takes off buckwheat honey without gloves. No matter how good the flow is, the moment you come near an apiary during a buckwheat flow, the bees are ready for you.

A case in opposition to the above is the bell-flower of Cuba. Being a morning-glory it closes very early in the day; but you can take off honey all day long, and do it without wearing a veil, if you are one of those who make a practice of working without one; and right here in Colorado, about two weeks ago, during the alfalfa flow I saw Mr. Hickox, of Berthoud, working bees during quite a heavy shower. He had a man holding a big um-

rella over him, and yet the bees were not a bit cross.

Alfalfa is also one of the flows when bees will not rob. During any alfalfa flow that I have ever seen it was safe to leave honey exposed for any length of time. I have known of supers of finished sections that had been missed stand leaned up against a hive for a week, and not a capping cut.

Ft. Collins, Colo.

[It is no doubt true that the source of honey (that is, the manner it is secreted from the nectaries of the blossom) has very much to do with the temper of the bees. We have

hour, due either to a heavy dash of rain washing the leaves clean, or to the hot sun drying up the saccharine matter on the leaves, so that the bees were unable to get it. A heavy dew or a light rain would start them to going again. The sudden flow and then sudden stoppage could hardly have any other effect than to make bees exceedingly irritable.

Buckwheat has a tendency to yield heavily in the morning and let up during the middle hours of the day; and it is probable this letting up and stopping is what makes bees crosser.

It would be our opinion that it is not the source that has any thing to do with the crossness or gentleness of the bees, but rather the *manner* in which that source gives up its nectar. Take, for example, clover. Unlike buckwheat or honey-dew, it yields a steady flow during all hours of the day—not heavy enough to make the bees crazy, but just sufficient to keep them quietly busy. Such a flow from any source will make them good-natured, while a sudden stoppage of any honey or nectar has the very opposite effect. For example, if we let bees get to robbing on a set of combs during a dearth of

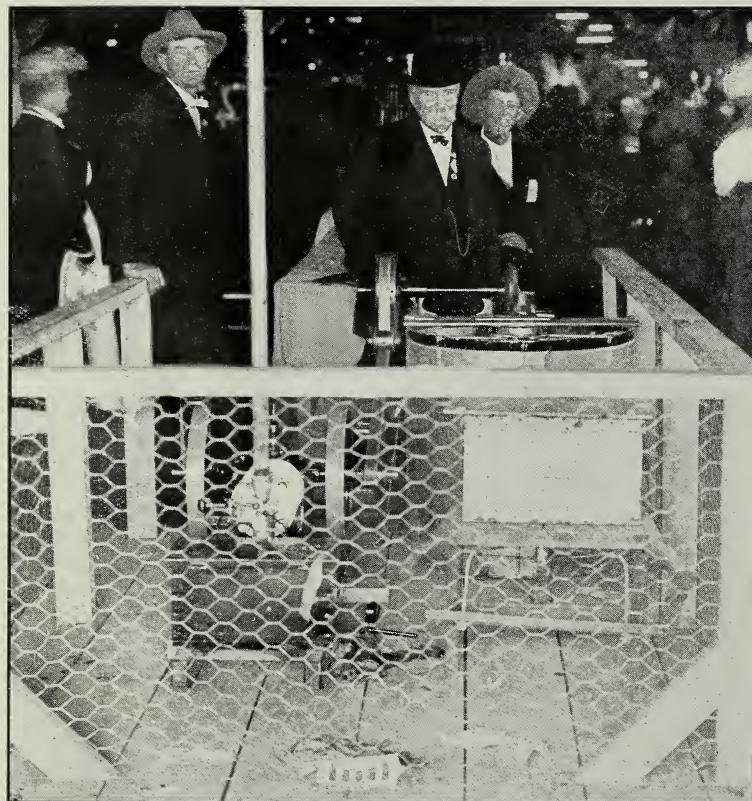


FIG. 1.—LOSSING'S EXHIBIT OF A POWER EXTRACTING-OUTFIT AT THE TERRITORIAL FAIR.

With this outfit was included, as shown, one of Mr. Lossing's automatic covers for a comb-carrying box attached to a Daisy wheelbarrow. This very practical invention for preventing robbers was fully described on p. 1257, Oct. 1, 1906.

been in a number of large buckwheat yards, and observed that bees while gathering buckwheat seem to be very much crosser than when working on clover. The fact is, buckwheat is a tremendous yielder of honey—so heavy, indeed, that bees get almost crazed by the very abundance of it.

The honey-dew, to which we referred editorially, came in copious quantities while it yielded; but it would stop almost within an

honey, that honey, while it comes in, comes in so rapidly that the whole apiary is stirred into an uproar. Then when that supply begins to fail, and especially after it is all gone, the bees are fighting mad. It is then that horses and other stock should be kept away.

On the other hand, we have given bees honey or syrup both, very slowly, by outdoor feeders. If it takes them a rather long time to get a little they will be quiet.—ED.]



FIG. 2.—LOSSING'S HONEY EXHIBIT AT THE TERRITORIAL FAIR.

PRACTICAL DISPLAY AT THE ARIZONA TERRITORIAL FAIR.

BY WM. LOSSING.

The three views shown herewith give an idea of our exhibit at the Territorial fair held last November. Fig. 1 shows the Gilson engine belted to an automatic extractor and a Lossing automatic cover attached to a Daisy wheelbarrow. These three machines attracted considerable attention. James Tracy stands at the left; next Wm. Lossing at the center, and back of the engine is the Hon. J. P. Ivy. These three represent over 2000 colonies.

In December following the fair I wished to extract a few cases more, so I hauled a load home from an outyard to try the automatic extractor as well as the engine. The honey had granulated somewhat, and was very thick. At 10 o'clock the knives were hot, and the engine started. We made a short stop at noon, and at 4 P.M. were through. This demonstrated to me that the engine and extractor (as the Englishman says) were a blooming success. With plenty of help I expect to extract between 4000 and 5000 lbs. in a day.

Fig. 2 is a partial view of bees, comb honey, and bottles filled with both mesquite and



FIG. 3.—HONEY PYRAMID AT THE TERRITORIAL FAIR, ARIZONA.

alfalfa honey; also large cakes of yellow wax. The bee display consisted of six one-frame observatory hives painted red, white, and blue; two Italian, two Caucasian, and two albinos. The queens seemed to attract more attention than any thing else in the building. Fig. 3 represents the pyramid at the base of which are large cakes of both dark and light yellow wax. Next to these were 1-lb. bottles nicely labeled alternating alfalfa and mesquite, between which were small cakes of white wax. Near the top were some very nice paneled 1-lb. and $\frac{1}{2}$ -lb. bottles. It was hard for the people to keep their hands off, although I had notices to that effect placed everywhere. In order to produce a contrast, two cakes of white mesquite honey trimmed with red tissue paper, two trimmed with white, and two with yellow, made our fair colors. The above was surmounted by a beautiful white wax horse saddled with a handsome special premium awarded for the personal display. The latter was valued more than the \$84.00 out of \$87.00 awarded.

Phoenix, Arizona, March 23.

THE QUESTION OF ENTRANCES.

How Far Can we Control Swarming by Varying their Size? and if So, How shall we Do it?

BY E. R. ROOT.

This question of entrances is one that perhaps has never received all the prominence it should. Perhaps bee-keepers are beginning to discover, however, that a doorway that is really contractable from a large to a small size is an essential part of the architecture of a hive, and, accordingly, modern

hives are now constructed with entrances twice and three times as large as they were formerly made. While it is essential to have them small during the winter, it is also equally important that they should be large during the swarming season. After that is past, and robbing time is on, it is important that all medium-sized colonies have contracted openings.

When we see colonies clustered out at the beginning of a honey-flow, there is a lack of room, a too contracted entrance, or both. A colony that hangs out day after day when there is a light flow of honey is almost sure to start cell-building; for bees will swarm much worse during a light or moderate yield than when it is heavy.

If bees have been hanging out for perhaps a week, in all probability there will be queen-cells with eggs or larvæ in them. The thought of swarming seems to be in the mind of the colony. While the cells may be cut out and delay the swarm, it is better to enlarge the entrance and give room. Far better still is it to provide a very ample entrance *before* the bees cluster out at all in the first place; and before they feel cramped for room they should be given extra super capacity. Several times this summer we have found in the case of colonies that were clustering out we could make them go into the hive by simply enlarging the entrance and giving room. Other colonies that were given large entrances at the start never started to build cells, nor did they swarm or make any preparation for it, but as soon as the inside of the hives was made durable they began work in drawing out foundation in the supers, and storing honey. We are satisfied, from experiments that we have been conducting

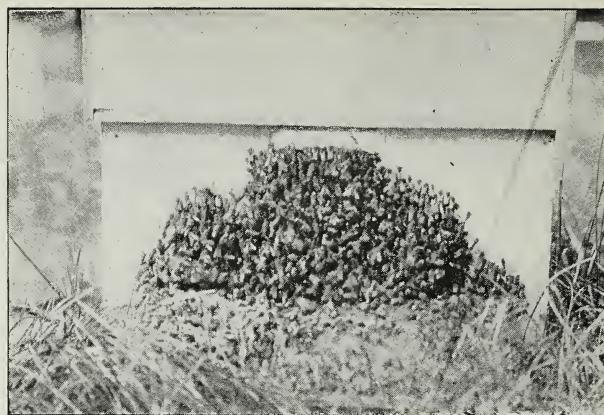


FIG. 1.—A CASE OF TOO SMALL AN ENTRANCE.
It was a warm day when this picture was taken. The bees, being unable to ventilate through the small entrance ($8 \times \frac{3}{8}$ inch), clustered out.

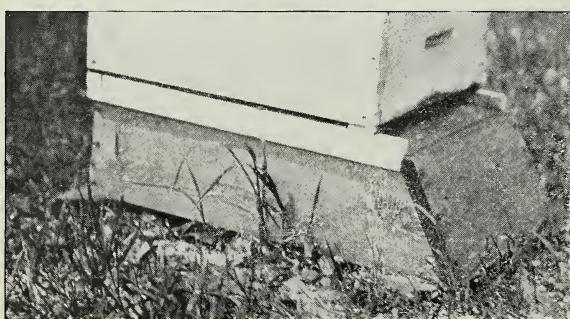


FIG. 2.—A HIVE WITH PROPER VENTILATION AT THE BOTTOM TO PREVENT CLUSTERING OUT AT THE ENTRANCE.

for two or three summers back, that swarming can be brought very much under control, if not entirely prevented, by enlarging the entrances or plural entrances, and giving room before the swarming idea gets into the mind of the colony.

The ordinary double-walled or chaff hive will not give that degree of entrance enlargement that is always desirable. While it has been made to provide a maximum of one inch by the inside width of the hive, yet there come times when a much larger amount of ventilation should be provided.

Dr. Miller and other prominent bee-keep-

ers have for years been raising their hives up on four blocks so that there are really four entrances, back and sides as well as in front. Our neighbor Vernon Burt, of Mallet Creek, has for the last year or so been practicing this plan, and he says it so nearly eliminates swarming that he has practically none at all.

A few days ago we were down at his yard and took a few photographs. Fig. 2 shows the front of the hive with its easy slanting approach to the main entrance in front, while the larger view, Fig. 3, shows how the bees are utilizing the rear and sides for flight, as well as the front. We visited his yard a couple of times in the midst of the swarming season. Not on a single hive in a yard of something like 200 colonies was there a

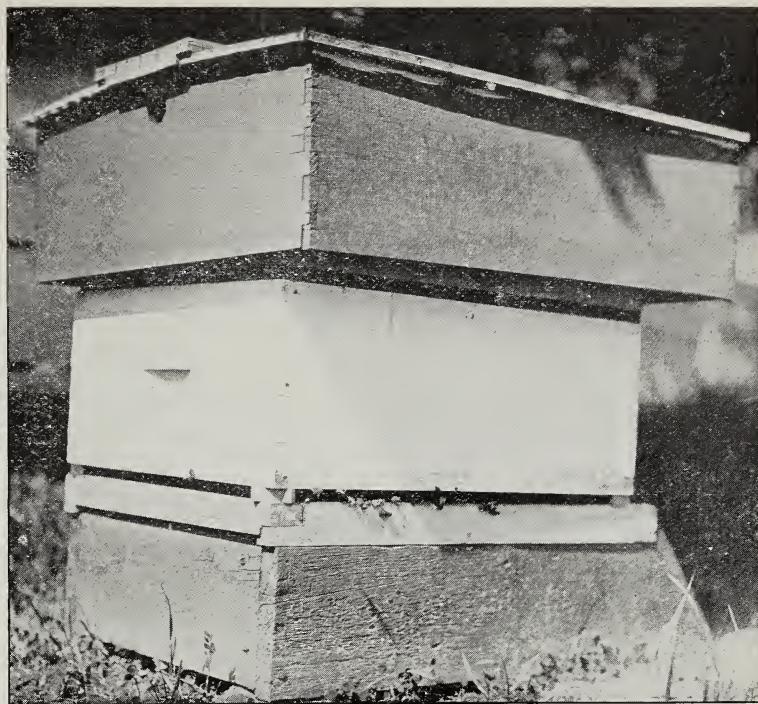


FIG. 3.—ONE OF VERNON BURT'S HIVES FOR THE PRODUCTION OF COMB HONEY.

Mr. Burt says this scheme of putting his brood-bodies upon four blocks so as to provide entrances for all four sides goes a long way toward eliminating swarming.

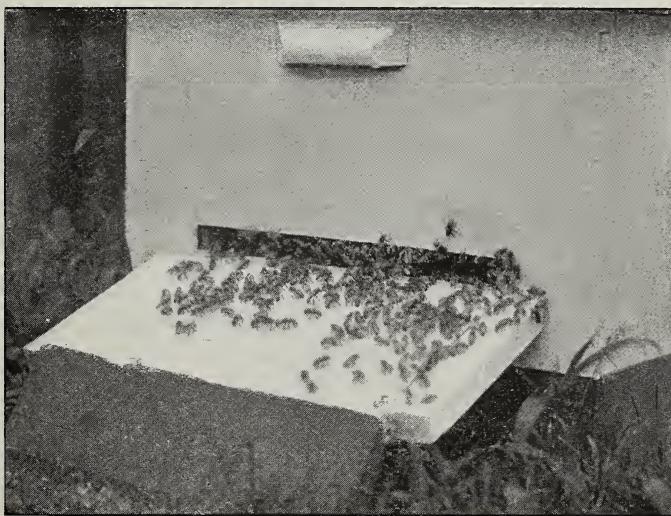
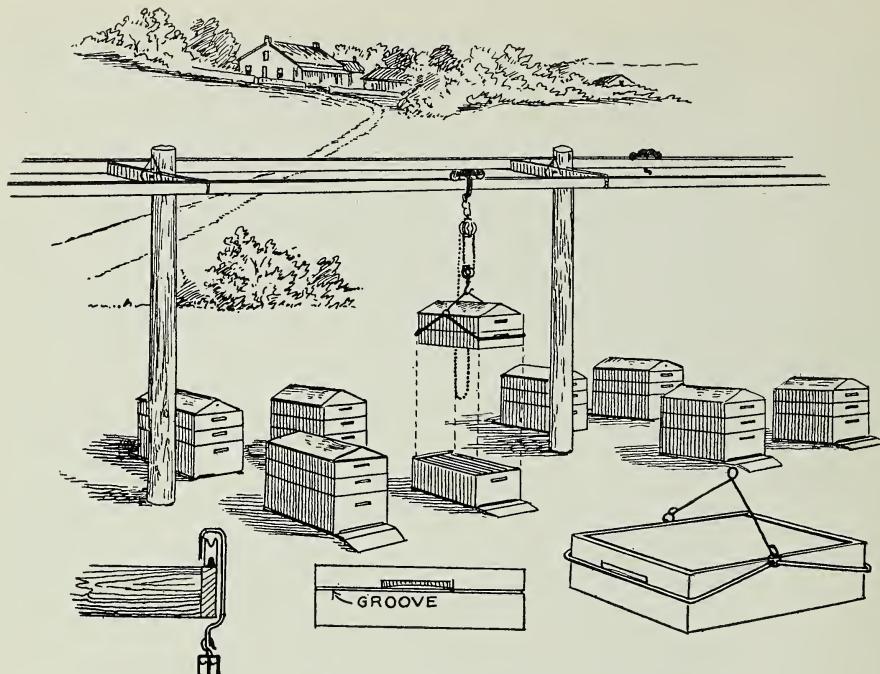


FIG. 4.—A COLONY THAT IS READY TO MEET ANY KIND OF ONSLAUGHT FROM ROBBERS.

Robbers had hovered around this entrance. The result was, the guards were out in good force to repel the attack.



BURGESS' OVERHEAD TRACK FOR HIVE LIFTING AND MOVING.

case where the bees were clustered out in front. They were flying merrily, and very much at work. Contrary to what Dr. Miller reports, we observed that they were utilizing the back and side entrances as well as the main entrance, although it was easy to be seen that the latter was used more frequently than any of the other three. In Fig. 3 the camera caught a number of bees just ready to take wing at these side and end openings, for the bees were flying quite freely from all sides of the hive.

Of course, merely raising the hives up on four blocks alone will not prevent or discourage swarming. The bees must be given plenty of room before swarming-cells are started. They should also be given a reasonable amount of shade. In Fig. 3 one will see that Mr. Burt has some old telescope covers that he formerly used on double-walled chaff hives. These are a good deal larger than the present hives, and, when placed over the supers, they project on the front and rear and on the sides enough to give a reasonable amount of shade. In the middle of the day the hive is fairly well shaded.

Fig. 4 is a rather interesting case of a prosperous colony with a good-sized entrance that has a good force of guards pretty well over the alighting-board. Robbers had been nosing about. Their large wide entrance made it necessary for them to deploy their force in such a way as to repel any invasion that might take place. While the camera was being adjusted we observed how, every now and then, one of these sentinels would

dart quickly into the air, seize a would-be robber, and give it such a tussle that it would conclude it had better go hence. Whenever we see a strong colony with its bees scattered over the alighting-board like this there is a comfortable feeling that *that* colony can resist any kind of attack that may be put upon it. It knows its strength, and stands ready to defend its home by a force of sentinels that are willing to die for it.

A HIVE-LIFTING AND HIVE-SHIFTING DEVICE.

BY LOUIS F. BURGESS.

The hives in my apiary are arranged in two rows, back to back, facing east and west, and with an alley 30 inches wide between the rear ends of the hives. They are not arranged at even intervals in the rows, but, as will be seen by reference to the sketch, are in groups of fours, leaving a good open space at one side of each hive for convenience in operation.

Stout chestnut posts are well set in a row on the middle line in the rear of the hives. These are 10 feet apart, 8 feet high, and have cross-arms mortised, bolted, and braced to them a foot below their upper ends. These arms are of hard pine, $1 \times 3 \frac{1}{2}$ in., and are 4 feet long. They sustain the long longitudinal rails, which are of the same material, but one inch wider, to give more strength. A metal track is laid on top of the rail, and a

barn-door hanger travels on this track. With a safety rope-hoist I am in position to lift any hive in a moment, to leave it suspended, or to run it a little to one side if desirable.

The hive-grip is simply two square loops of quarter-inch round iron, the two parts being loosely connected by a two-inch iron ring. The whole thing, when extended on the ground, is about three inches longer than the hive, and wide enough to slip loosely over it.

I use the sectional hive; and, not liking to mar my cases by gripping them with teeth (as Mr. Hand does), I have cut a narrow groove across the ends of each case in the line of the hand-holes. The lift engages in this groove, tightens as the pull is put on, and gives a very secure hold, as will be seen by reference to the cut. The particular construction of the grip as shown in the illustration I shall discard in favor of the one that Mr. Hand uses, although I shall have the grooves in the ends of the hives to prevent marring. This first grip was all right for lifting two or three supers from the top; but when it was put lower the center of gravity fell too high, making the load top-heavy. Lifting from four points is much steadier than from two.

By inserting a spring balance between the hoist and the hive-grip I can easily do any weighing necessary.

Danbury, Ct., March 17.

BEE-KEEPING IN THE BRITISH ISLES.

A Criticism.

BY W. HERROD.

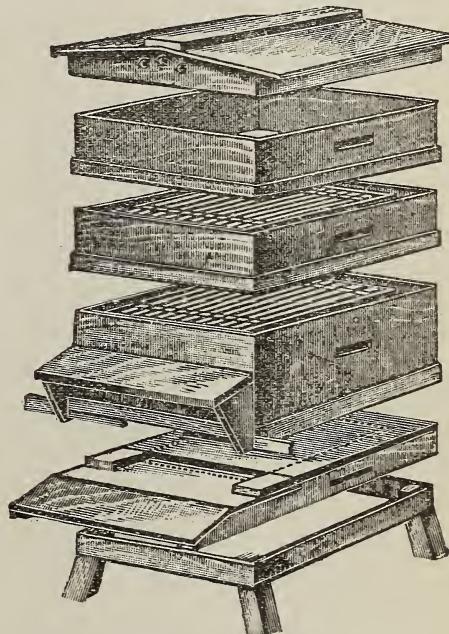
I have been reading the article, page 1383, Nov. 1st, on "Bee-keeping in the British Isles," and as there are several inaccuracies in it which may give a wrong impression as to the state of bee-keeping in this country I hope you will allow me to make use of your columns to make some corrections.

First with regard to the statement that there is not a single bee-keeper who depends entirely upon his bees for a livelihood. The number certainly is limited, and could be counted on the fingers of one hand; but I could give the names of several who depend upon their bees as a means of livelihood; and though, certainly, our climate and seasons are fickle they do very well. It is more the limitation of abundance of bee forage in any one particular district that prevents a living being made out of the industry than the above reasons.

The bee-tents used in this country for demonstration purposes are not enclosures of mosquito netting, but are made of a much finer material to enable the spectators to see very clearly what is going on. Very fine silk net is often used. The tent consists of curtains only. The top is left quite open to enable the flying bees to get clear away from the demonstrator. The colonies used for demonstrations are placed some little distance

away, and allowed to fly early in the morning of the day the demonstrations are to take place. In this way they locate their new position, and so fly straight to it from the demonstration tent instead of worrying round the demonstrator and spectators. It is found that, if the bees are enclosed altogether, it is impossible to work the tent on a hot day without killing heaps of bees, as, instead of again going into the hive being used, they fly round until exhausted, and drop on the ground and are crushed by the feet of the operator.

It is true some of the exhibitions are held in the Agricultural Hall, London, in conjunction with other exhibitions, but the classes there are for bee produce only. The finest show of all for both produce and bee appliances is that held by The British Bee-keep-



THE "W. B. C." HIVE AS USED EXTENSIVELY IN ENGLAND.

ers' Association in connection with The Royal Agricultural Society of England's annual show. This is not held in one place continuously, but is migratory, being held in a different town and part of the country each year, enabling both agriculturists and bee-keepers in that particular part to see the latest appliances with very little expense in the way of traveling. The British Bee-keepers' Association has nothing to do with the exhibitions held in London beyond appointing judges.

Mr. W. Broughton Carr, the designer of the hive bearing his initials, was not the editor of the *British Bee Journal*. It is owned and edited by T. W. Cowan, Esq., whose reputation is world-wide. Mr. Carr, whose loss we all deplore, was certainly assistant editor.

There is some mistake with regard to the description of the W. B. C. hive, which is the most popular hive in this country, as the one described is not a W. B. C. hive at all, but one made by E. H. Taylor, of Welwyn, and called "Taylor's Up-to-date Twentieth-century hive." It is what we call a non-swarming hive. The illustration you have can be found on page 16 of his catalog. I send you an authoritative block of a W. B. C. hive from the *British Bee Journal*, which I hope you will print with this letter, so that your readers may compare it with the one you gave on page 1384, Nov. 15, 1908. You will notice that the W. B. C. hive has no frames under the brood-chamber at all.

We have no standard hive in this country; but we have a standard frame, the size of which is 8½ inches deep, not 9-inches, as stated. Though we have not a standard hive, the majority of our bee-keepers use one holding ten of those frames and a dummy-board.

The method of working a W. B. C. hive described is not applicable at all, as will be readily seen on reference to the illustrations, neither is the system of doubling now followed in this country. I am a bee-keeper of twenty years' standing, and have visited all the well-known bee-keepers and many others during that time, and I have never yet seen that method practiced in one single instance; but the method of doubling adopted here is that explained in the "British Bee-keepers' Guide-book," and instead of preventing brood-rearing in the honey harvest, as mentioned, the bee-keeper works the whole of the season to get as many young bees reared as possible.

As a queen-breeder I do not understand the paragraph commencing at the bottom of second column, page 1385, on making nuclei. I can not make either head or tail of it.

The illustration of a bottle feeder, called a "rapid spring feeder," is our slow stimulative feeder, and is used in the early spring and autumn to keep the queen laying. The Canadian feeder is the form we use for rapid feeding in the late autumn.

The favorite extractor in this country is that known as the "Cowan rapid," which costs 50 shillings. The one you illustrated, known as the "Guinea," is used in only very small apiaries, and costs 25 shillings.

Heather honey is produced chiefly in Scotland and Yorkshire, and does not find a ready sale in England at all. The taste for it is an acquired one, being a bitter sweet. The harvest is precarious, being gathered in September, when we often have very wet weather. The climate of Scotland, where the bulk comes from, is also naturally a very damp and cold one, and this goes against a large return. Good heather harvests are obtained on an average once in three years. The price obtained is 35 to 50 cents per pound. My experience is that the flavor and color of honey obtained from white Dutch clover in this country is very different from that you obtain from sweet clover.

I am afraid if a teaspoonful of naphthol beta

were put to ten pounds of sugar syrup the bees would refuse to take it altogether. The right quantity is three grains of naphthol beta dissolved in spirit to each pound of sugar.

Lulow, England.

HONEY-CROP CONDITIONS FOR 1909 BY STATES.

BY E. R. ROOT.

In order that we might get a fairly accurate birdseye view of the source, quality, and the amount of honey, we addressed a circular letter to a number of prominent bee-keepers over the country, including Ontario, Canada. Another letter we sent to the honey merchants or commission men who quote regularly in our columns, requesting them to give a detailed report of conditions as they find them, particularly how receipts and offerings of this year compare with last. We will first give the statements of our commission men:

It is too early to give much information on the honey crop. So far as we hear, it will be short in Vermont, very little new honey being offered so far.

Boston, Mass., July 29.

BLAKE-LEE CO.

In answer to yours of July 28, we wish to say that there has been considerable honey-dew in our locality. Some of this is mixed with honey. We consider the crop for this territory about one-third. The prices will not depend on this crop, but on other localities. We do not look for high prices on honey.

Cincinnati, O., July 29.

C. H. W. WEBER & CO.

The receipts of comb honey are very small as yet—considerably less than at the same time last year. Extracted honey is arriving in small quantities, and, according to our judgment, the receipts are about half the quantity of last year. The demand, however, is very tame, and there is enough honey in this market to go around.

R. HARTMANN.

St. Louis, Mo., July 30.

Your circular letter of July 28 is here. The honey crop in this section is almost a total failure. The few who report some, have it badly mixed with honey-dew. While there are sections of our grand country reporting a wonderful harvest, there will be no shortage in the least, for shipments of honey come rolling in, which fully indicates that there will be no famine. California offers us so much honey that we even fear they do not want us to know how much, for fear it will be as cheap as water. There is one thing, however; and that is, a lower level of prices will prevail in order to bring back business to a more healthful state, or otherwise it will be a thing worth while, at least.

Cincinnati, O., Aug. 2.

FRED W. MUTH.

Mr. E. R. Root.—We are in receipt of your favor of the 28th ult., asking us to give you a detailed report on this year's crop of honey so far as we cou'd. In reply we beg to say we generally write every year to some of the largest producers throughout the country, principally through York State, as we do not handle Western honey to any extent excepting California and Arizona, and of this the extracted only. Our first reports, which we received about two weeks ago, were rather unfavorable on account of the poor season of white clover; but nearly every producer writes that basswood looks very promising, and that favorable weather would probably make up the shortage of the clover. During the past week we have received numerous letters from various parts of York State as well as Pennsylvania, saying that basswood was fair; it turned out very well, and that nearly all of them expect to have a fair or average crop of white honey. In fact, some of the producers will have a large crop—even larger than last year. Summing up the reports we received from the Eastern States, including New York and Pennsylvania, we are of the opinion that the crop will not fall short any from that of last season.

As to the middle West, while the crop will be considerably short in some of the States, we think that others will make up the difference, and that at least a fair

average crop has been produced. So far as the South is concerned, a fair crop has been produced in the two Carolinas, Georgia, Louisiana, and Texas, and a good crop in Florida.

We are receiving letters right along from the above-named Southern States, asking as to the market condition, quite a number of them from producers whom we have not heard of before, which would certainly indicate that a fair to good crop has been harvested. As to Colorado and Utah and other Northwestern States we assume that there will be a fair crop. This may be said of Arizona.

As to California, the first reports were very discouraging, and it seemed as if not much honey would be produced in Southern California. This, however, has been the same old story from the coast; "short crop" has been the cry for several years past, which seems to be the habit in California. We have always found that there was enough California honey to go around, even with the reported short crop, and some of it is carried over every season.

When California reports 200 cars to be the crop produced, we generally figure from 350 to 400 cars, and think we come pretty close to the mark. Judging from the offerings we are receiving from the coast, we are inclined to believe that a good crop has been produced.

New York, Aug. 2. HILDRETH & SEGELKEN.

In the circular letter which we sent out to prominent bee-keepers throughout the United States we requested that these correspondents answer on a postal by number. Read carefully the circular letter, and then the replies will be understood.—ED.

Dear Sir:—In our Aug. 1st issue we prepared a report of the honey-crop conditions, based on the best information we could gather from various correspondents and friends. With a view of revising the same, we are taking the liberty of asking you to answer, as best you can, the following questions. In your replies it will not be necessary to repeat the question, but simply give the number opposite each answer.

1. Has there been much honey-dew gathered in your locality?
2. If so, is it mixed to any considerable extent with white honey?
3. As compared with a fair average year, what has been the yield of clover, basswood, alfalfa, or whatever is your main source of supply?

4. In your judgment, will prices on honey be higher or lower than last year in your locality?

If you will help us in making up a revised report you will be conferring a great service on the bee-keeping industry at large, for these reports have a direct bearing on the all-important question of prices.

It would be a most serious mistake to report the yield lower than it is in order to boost prices, because in the end the true facts would be discovered, and the result would be a general slump that will bring prices considerably below what they would have been had the facts been accurately given at first. We have selected you, as we believe you will give a fair and accurate statement; but we mentioned the effect of understating the market, only that you may not be misled by prejudiced reports from those in your vicinity.

We would appreciate it if you could get these replies to us as early as possible, for the reason that the first prices that are established would have considerable bearing on the prices that are maintained throughout the season.

E. R. ROOT.

Medina, Ohio, July 28.

These replies, arranged alphabetically by States, are as follows:

Crop is off about three-fourths in this locality; too much rain; nearly 40 inches of rain since February 1. Montgomery, Ala., July 23. J. M. CUTTS.

Honey crop up to date has been very poor in most places. Compared with the 1908 crop it falls short at least one-half, perhaps more. W.M. LOSSING.

Phoenix, Arizona, July 8.

1. Very little; 2. Can not say; 3. Perhaps half—not more; 4. About the same.

THE SOUTHWESTERN SEED CO.

Fayetteville, Ark., July 31.

The honey crop is turning out better here than the early spring gave promise for. Quality is mostly dark in color, but the taste is good. A. P. HERRICK.

Campo, Cal., July 21.

I am informed by good authority that the honey crop in the San Joaquin Valley will be very short, perhaps not more than half a crop. Now as to conditions in this valley, our crop will be about the same as last year. The honey-flow checked very suddenly, and may not resume again; if so, we shall be short. I am laying off half of my men at the end of this week, so you see how I feel about it. Phoenix will probably have a normal crop.

J. W. GEORGE.

Imperial, Cal., July 19.

From all reports which have come in, we expect to have a little better than half a crop this season. In some portions of the San Joaquin Valley there will be no honey produced this year, owing to heavy losses caused by European foul brood. The quality of the honey will be about the same as usual for the summer crop—that is, amber to dark amber.

G. A. FARIS.

Fresno, Cal., July 13.

1. None at all; 3. Just an average crop; 4. About the same price.

S. T. PETTIT.

Aylmer West, Ont., Can., July 31.

1. Not a large quantity; 2. No; 3. About two-thirds; 4. No lower and probably a little firmer.

Ealing, London, Ont., Aug. 3. F. J. MILLER.

1. No; 2, 3. One hundred per colony from clover; 4. Likely to rule a trifle lower than last year; quite a general medium crop in most parts of Ontario from clover, and prospects for buckwheat are good. Basswood has done very little, hardly worth mention.

Mt. Joy, Ont., Can., July 30. J. L. BYER.

Answering yours of July 23 I would say there has been a great deal of honey-dew on plum, apple, and other fruit-trees secreted by aphides. The bees very conspicuously worked on this honey-dew before clover-bloom. For those who have been careful, it has not injured the clover crop, and in this section of the country first-class clover honey has been secured. If bee-keepers are not careful, bees may not winter well, owing to the presence of this honey-dew in the brood-chamber as stores for next winter. The clover-yield has been above the average, probably the best for years; basswood promised well, but did not yield much, although from the amount of flying conspicuous, more was expected. The bees gathered as much thistle honey as basswood. The above is the sole source of surplus honey. Owing to the high price of other produce, and the failure of much of the apple crop, and the growth of our country in population, if bee-keepers do not lose their heads we are likely to obtain the same or about the same price for our extracted honey as last year. We do not anticipate much competition with foreign honey, as the quality of our own is exceptionally fine; and if, for lack of proper distribution, there should be too much honey in any section we hope to be able to secure a sufficient export demand.

Brantford, Ont., July 31. R. F. HOLTERMANN.

1. No honey-dew gathered here; 3. The crop has been about an average one, perhaps rather more gathered from alfalfa than usual; 4. The same or higher.

Grand Junction, Col., Aug. 3. J. A. GREEN.

1. No; 2. No; 3. Too early to answer; prospects for average crop; 4. Perhaps a little lower.

Denver, Col., July 28. FRANK RAUCHFUSS.

1. There has been no honey-dew this year; 2. Quality of the honey is good, and there is as much white honey as we generally have, and most of our honey is water-white; 3. The crop looks to be an average, though not as good as 1907 was. The bees are now ready for the second bloom of the alfalfa; and if it yields as it should, a surplus of 75 lbs. may be secured; 4. Locally, prices will be lower at first than last year; but new honey is selling above the old honey prices now.

Denver, Col., July 30. WESLEY C. FOSTER.

1, 2. No mention has been made of honey-dew, from our source of information; 3. Our yield in sections or areas outside of Savannah territory has been 50 per cent; 4. Prices have not been disturbed.

Savannah, Ga., July 30. HOWKINS & RUSH.

Honey crop is the poorest in many years.

Norwalk, Ia., July 24. D. K. BROWN.

A small amount of honey-dew is mixed with clover in localities where hickory-trees are. Two yards of mine are nice clover, not mixed; basswood, no yield to mention. Clover made an average of 19 sealed sections per colony, of 450 colonies.

Maquoketa, Ia., Aug. 4. FRANK COVERDALE.

The honey-flow commenced June 19; ended July 19; there was much weather when the bees could not work. I thought the flow would last until August. I am now taking off empty supers, and honey has gone up two cents in my mind.

E. C. WHEELER.

Marshalltown, Ia., July 23.

1. In a few localities honey-dew has been reported, but it is not general in Iowa; 2. What there is was gathered in June and the early part of July, and was mixed with the white honey; 3. The yield of clover and basswood honey is about one-half average crop as nearly as we can estimate at this date. There is much unfinished honey on the hives, which will likely be finished out with fall honey; 4. Prices for honey will certainly be higher this season than last.

JOS. NYSEWANDER.

The yield of white honey in extreme northwestern Illinois will not be 10 lbs. per colony. R. B. RICE.

Mt. Carroll, Ill., July 19.

The white-honey crop here is almost a complete failure. What little has been gathered is all more or less mixed with honey-dew. The prospect for a late crop, however, is pretty good.

C. H. DIBBERN.

Milan, Ill., July 19.

1. No; 2. None to mix with; 3. A year of failure; fall flow may fill up for winter—but may have to feed; 4. A little higher.

C. C. MILLER.

Marengo, Ill., Aug. 3.

All honey here is badly spoiled by honey-dew. The white-clover flow was short, even where apiaries were located away from timber lands. Spring yield is about a third of a crop. Prices on white honey should rule high, as it is a scarce article in this locality.

Hamilton, Ill., Aug. 4.

DADANT & SONS.

1. About 50 lbs. per colony of honey-dew; 2. Not mixed at all with white honey; 3. No white honey at all so far; good outlook for fall crop; 4. For white honey, certainly not lower than last year; probably half a cent higher.

C. F. BENDER.

Newman, Ill., July 30.

This has been the worst year in my experience of bee-keeping—no white clover to mention, bees too cross to handle comfortably, and almost as much swarming as last year when the clover was plentiful. I have taken off about 100 lbs. of honey, or, rather, honey-dew, as there is no honey, and bees are short of stores. They should have had at least 4000 lbs. by this time in a normal year. Unless we get a fall flow, bees will have to be fed for winter. This is the experience of all the bee-keepers around me.

Morrison, Ill., July 29.

C. G. MACKLIN.

I just returned to-day from a trip to Barrington, and so on to Lake Geneva, and have to say that, so far as I could observe, there was no white clover in all the northern part of Illinois, nor in Southern Wisconsin. This condition was predicted early in the season, because of the very severe dry time last fall, but I found an abundance of sweet clover which was being worked very freely by the bees. I have observed no honey-dew in this vicinity, neither have I heard the matter mentioned by any one. The yield of honey throughout this region I think will be largely sweet clover, that is, it will predominate.

W. M. WHITNEY.

Evanston, Ill., July 28.

1. A great deal of honey-dew has been gathered; 2. It has practically ruined all white honey; 3. Practically no white honey secured; 4. Prices on white honey are bound to reach the limit.

WALTER S. PODUER.

Indianapolis, Ind., July 29.

We have no white-clover honey in Northern Indiana, so far as I know, as the white clover killed itself blooming last season, and bass-wood is scarce, with some alsike clover; but the honey-dew honey is the whole thing this season in this locality. Our crop of this dark stuff is 1000 lbs. We expect a fine crop of touch-me-not honey this fall.

C. A. BUNCH.

Lakeview, Ind., July 23.

As to the honey prospect here, I have never seen the flow stop so suddenly and completely as it did about ten days ago. The white clover was practically all winter-killed, and the alsike is all cut for hay. There is no other bloom for the bees to work on. There was a good basswood bloom, and the bees stored from it about two days when rain and cool weather set in and spoiled it all. I have some very fine honey, but not half as much as last year.

A. H. SNOWBERGER.

Huntington, Ind., July 23.

1. Considerable dark honey; 2. Almost entirely honey-dew; white missing; 3. June crop too dark to sell; will avoid buying any; 4. Prices will not vary much—expect outside supply.

June, 1908, gave us much white clover; 1909, none. A week ago some colonies were ready to starve without eggs or brood; a little help given, and now well on with eggs and new brood. Locally we expect a very good crop of light honey by moving bees to the river-bottom land, as fall crop comes in August and September, and makes three-fourths of our usual supply—hoestring vine, smartweed, wild cucumber, Spanish needle.

W. W. VICKERY.

Evansville, Ind., July 30.

1. Very little; 2. Where stored in sections it is mixed to some extent with white honey; 3. Clover has produced more than last year; basswood less as the flow was short, owing to cool weather; we had a good flow from raspberry and sumac; 4. Prices should rule about the same as last season, with a firm market later.

Lyonsville, Mass., July 30. W. W. CARY & SON.

1. No; 2. Clover is our main source; an average crop; 4. Prices will rule the same as last season. The prospect at this date is not as good as at my previous report; too dry in the western part of our State, and too wet in the eastern part. Aroostook County, our best honey locality, has had too much rain.

Mechanic Falls, Me., July 30. J. B. MASON.

1. Not any; 2. Half a crop of raspberry; 4. Higher. Mancelona, Mich., July 31. S. D. CHAPMAN.

The honey crop will be a little more than half an average. W.M. CRAIG.

Luce, Mich., July 24.

2. No honey-dew gathered to speak of in this locality; 3. About half a crop in this locality; 4. Prices will be about the same.

M. H. HUNT & SON.

Lansing, Mich., July 30.

1. No; 2. 55 per cent; 4. Considerably higher. Every thing is higher, and I had an offer yesterday from one of the largest dealers in the country of a price of $1\frac{1}{2}$ to 2 cents higher than last year.

Lapeer, Mich., July 31. R. L. TAYLOR.

1. No honey-dew; 3. About half a crop in my yard; 4. The price will be a little higher, although not relatively so, as the clover is mixed with sweet clover, basswood, etc.

L. A. ASPINWALL.

Jackson, Mich., July 30.

1. None; 2. No; 3. Not one-half; I don't think one-third; 4. I am paying 2 cts. more per pound than last season, but not getting enough to pay. Local dealers are selling at 15.

GEO. E. HILTON.

Fremont, Mich., July 30.

1. Little or none that I know of; 2. Early honey did not seem so white; 3. Clover poor; basswood just going out of bloom now, but we never get very much of late years; some mustard and milkweed; more colonies, but less honey this year; very cold spring; bees in cellar till May 2, but ought to have remained until the 15th. I will extract white honey next week to prepare for buckwheat; 4. Ought to be higher.

Manistee, Mich., July 31. W. HARMER.

1. No; 2. None; 3. Five-eighths crop; 4. We are selling at the same price. My brother in Clinton County reports half a crop; Neighbor Bauman, four miles west, half a crop. A late flow from willow-herb in our north location is making up for the shortage in the raspberry, on account of the fires a year ago. Taking it all together, the season of white honey will be below the average. You will understand that this willow-herb flow up north is making our average better than further south.

E. D. TOWNSEND & SONS.

Remus, Mich., July 30.

The season here has been about half as good as last year. Bees have been idle for two or three weeks.

Walnut, Mo., July 22. F. P. BANE.

1. All honey-dew, no other kind; 2. No mixture; pure honey-dew; 3. None; 4. Honey-dew honey low; old stock of Spanish-needle honey sells same as last year. Prospect good for a fall flow.

J. NEBEL & SON.

High Hill, Mo., July 30.

The honey crop in this section is an entire failure. Our surplus honey comes from sweet clover; the bloom is all off, and no honey on hand to speak of, nor do we expect honey from any other source. We shall not make 10 lbs. average this year.

Penn., Miss., July 31.

J. D. SMITH.

Concerning your inquiry as to honey, I have to report the first failure of the honey crop that I have known. They started good on dandelion and raspberry, but white clover did not pan out, and only about half a day's flow of basswood. ERNEST L. BROWN.

Warren, Minn., Aug. 2.

Yield of honey is very light for this section. Record of 40 colonies shows an average of 30 lbs. of comb honey taken off at this date, and prospects for more are poor. Weather has been very dry. Basswood did not bloom profusely as in 1908, and bees seemed to disregard it almost entirely. The surplus honey taken off is mostly from white and alsike clovers, of which there were many acres. JOHN J. KADLETZ.

Chatfield, Minn., July 26.

Owing to a drouth which has prevailed here since June 20, only about half of the usual amount stored by the bees from white clover has been harvested. The presence of honey-dew, which has been mixed with the white clover, has darkened the whole product.

Bernardsville, N. J., July 23. WATSON ALLEN.

I shall have an average crop of honey-dew this season. G. S. HURLBUT.

Batavia, N. Y., July 22.

1. No; 3. About the same as last year; 4. About the same. F. A. SALISBURY.

Syracuse, N. Y., July 29.

In this section the crop is very light. I don't think we shall get a fifth of a crop this season.

Ticonderoga, N. Y., July 24. GEO. H. ADKINS.

1. None; 3. Hardly a fair average; 4. Slightly lighter; above also applies to New York State; large average of buckwheat is looking well. CHAS. STEWART.

Johnstown, N. Y., Aug. 2.

1. I have not noticed honey-dew honey, but elms have seemed to drop it on many places freely; have seen no bees working on it; 2. No; 3. Rather poor; 4. About the same. Our main crop is goldenrod.

Oswego, N. Y., July 31. F. H. CYRENIUS.

1. Yes, but gathered late after the clover flow was nearly over; 2. Mixed all through the basswood; 3. Fruit-blossom, a fair yield; clover, average; basswood, light; 4. Nearly all honey marketed locally. Market conditions have little influence on prices.

Marion, N. Y., July 29. J. A. CRANE.

1. No honey-dew; 3. Alsike clover above an average; basswood hardly one-fourth crop; only a fair or below average of white honey, combining the two; 4. Prices should be higher, but probably will be about the same as last year. G. M. DOOLITTLE.

Borodino, N. Y., July 30.

1. None, at least not perceptible in any of my apiaries; 2. No; 3. Clover, average; sweet clover, more than average, but only one apiary in sweet clover. Basswood, heavy bloom, but almost no honey from it. It did not yield with me; 4. Higher, owing to shorter crops generally, and to better times; also scarcity of small fruits. O. L. HERSHISER.

Kenmore, N. Y., July 29.

1. No; 2. Clover; from basswood a little better; 3. About the same as last year; 4. Too early to get prices. I shall hold for 15 cts. for white comb; buckwheat 13; comb, white or basswood, is on the hives yet; can't tell how much, but basswood yields better this year; can't tell about buckwheat, but I expect enough to eat. Price 7 cts. for extracted. I got 7½ for some. W. L. COGGSHALL.

Referring to the honey crop in this vicinity, we would state that we have received quite a good many reports, nearly all which have been quite favorable. We believe it will be equal to if not better than last year. The honey is mostly light in color, and free from honey-dew. Prices will probably be about the same as last year. W. E. THORNDYKE.

New York, July 15.

1. No honey-dew in this immediate vicinity to any extent; 3. Crop not over one-third in this part of the county; in the northern part of the county the crop is a good average, and quality of honey No. 1; within five miles of my home yard the yield is already better, and within fifteen miles the crop is average; 4. In all justice to the honey-producers, the price of honey should be higher; every other article as well as the price of labor has materially advanced. Why should honey alone be an exception? F. GREINER.

Naples, N. Y., July 30.

The white-honey crop for Fulton and Montgomery counties is at a close, and finds us with a little less honey per colony than last year, but as bees wintered well we have a little more honey of about the same quality. The above applies to our State as a whole. A larger acreage of buckwheat was sown than usual, and it is looking well. CHAS. STEWART.

Johnstown, N. Y., Aug. 2.

1. No honey-dew whatever in this locality; 3. The flow from white clover was exceptionally good; but it is the only honey source we can depend on for surplus honey, as a rule; we had a full flow from June 22 to July 6; 4. Prices have dropped a little in consequence of bees having wintered practically without loss, and a heavy yield of white-clover honey following.

LaSalle, N. Y., July 31. G. C. GREINER.

1. No; 3. Not an average; too wet; 4. Same—15 cts. for section. C. B. PALMER.

Bradshaw, Neb., July 30.

White clover, one-third crop; basswood, entire failure. No honey coming in; only a light flow from catnip and sweet clover, very little if any surplus looked for.

J. L. GANDY.

Humboldt, Neb., July 23.

Our white-clover honey is a very poor yield, owing to unfavorable weather. The clover crop of blossoms was good, but yielded little nectar; not much change in price; last year was poor; expect excellent fall honey-flow from heartsease, which is our principal product in fall; white clover is our main reliance in spring. No basswood nor buckwheat. Alfalfa does not yield much nectar.

G. M. PLUMB.

Lincoln, Neb., July 30.

The honey crop will be short here this year.

D. W. DITTO.

Bees have done fairly well here this spring. Most of the honey has been dark "honey-dew." Basswood began the 8th. Prospects are good.

E. B. CASE.

Lockwood, Ohio, July 13.

1. Not to speak of; 2. Some report it as mixed; 3. A fair crop is reported from this locality; 4. From outlook at present, about the same; possibly a little higher.

THE GRIGGS BROS. CO.

Toledo, O., Aug. 3.

1. Yes; 2. Yes, especially where there is sweet clover or sumac; 3. Total yield, including honey-dew, about $\frac{1}{2}$; white honey, less than $\frac{1}{4}$; 4. While there will be an over-supply of dark and honey-dew honey, which will sell very cheap, white honey will command a much higher price than last season.

Zanesville, O., July 29. EDMUND W. PEIRCE.

I will say that, unless bees do better than they have so far, we shall have but little honey to offer. We have taken a small amount; mostly honey-dew honey—no clover to mention. We may have a flow from fall flowers, but it has been too wet so far.

Spargurville, O., Aug. 3. J. R. COOPER.

1. Yes; 2. Yes; 3. One-fourth to one-half the average yield, varying in the out-apiaries; basswood and honey-dew; 4. I am in doubt how to answer this. Farmers will sell their honey-dew for all they can get; the grocers and the consumers will get sick of honey, and buy corn syrup. Am I wrong? Well, I shall have 4000 or 5000 lbs. I would like to sell at 6 cts., but I want 10 cts. for 1908 crop; have 12,000 lbs. on hand.

Oberlin, O., July 30. CHALON FOWLS.

1. Bees have been constantly bringing in honey-dew during the entire season; 2. Said honey-dew is thoroughly mixed with the basswood honey; there will be no white honey in this vicinity of any kind; 3. No white clover; alsike yielded some, but no surplus; basswood yielded bountifully, and gave a surplus of 50 lbs. per colony, which is rendered unsalable by honey-dew; 4. White honey will bring higher prices this year than last.

In all of my experience in bee-keeping, this is the first season that I have had my white honey ruined by honey-dew.

J. E. HAND.

Birmingham, Ohio, July 30.

1. Yes; 2. Large percentage of honey-dew; 3. Half crop; 4. Little higher.

W. M. A. SELSER.

Philadelphia, Pa., July 31.

I have secured a good crop of red-raspberry honey, both extracted and comb, and can sell a quantity of each.

R. D. HORTON.

Blossburg, Pa., July 26.

We have a very poor season for honey here—practically nothing but honey-dew has been coming in since the 10th of June.
Lebanon, Pa., July 20.

The honey crop for McKeen Co., Pa., of 1909—clover, about half; red raspberry, two-thirds; basswood, loaded and in full bloom; but weather is bad; heavy winds and rains.
Bradford, Pa., July 24.

The white-clover honey crop here is pretty short—only a few linden-trees in this neighborhood, and not a great deal of buckwheat raised in this part of Bedford Co. There has been more honey-dew this summer than I have ever seen.
Maria, Pa., July 22.

Heavy flow from fruit-bloom, locust, and sumac, which gave a fair yield; no clover bloom. Drouth threatened buckwheat up to last evening, when we had a fine rain, and prospects are now brighter. The surplus honey is mostly honey-dew.
Schillsburg, Pa., July 23.

REV. H. W. BENDER.

1. Not a great deal, and yet enough to darken the honey; 2. Very little white honey in this section; we do not have a single pound of good pure white honey in our apiary of 200 colonies. The same is true of others, from whom we have heard; 3. A little higher; there is very little surplus honey finished in this section; 4. Very doubtful if there will be half a crop. We are depending upon buckwheat. This information is based upon reports from wide ranges in Western Pennsylvania.
REA BEE & HONEY CO.

Reynoldsville, Pa., July 30.

We have had the best summer flow of honey that has come in five years; fine prospect for fall flow, commencing the last of August.
W. A. SPANGLER.

Morristown, Tenn., July 23.

There is no honey-flow, and has not been.
Cameron, Texas, July 21.

FRANK MCLEARN.

The honey crop in general is very good throughout the southwestern part of the State. So far we have found very little honey-dew. The grade of all the honey we have handled has been strictly first-class white honey; have seen very little amber honey. The prices, we think, will advance about 4 cts. per lb. in the near future. Alfalfa, mesquite, cat-claw, guajilla, about three-fourths yield.
TOEPERWEIN & MAYFIELD.

San Antonio, Texas, July 31.

1. Yes; 2. Early white clover has some; later, none.
3. Prices rule lower; 4. Dry weather cut off flow, thus making it about as last year.
W. E. TRIBBETT.

Staunton, Va., Aug. 2.

Honey crop for this section here is nothing like what we anticipated in our other report. All is mixed with honey-dew, and is dark in color. We have about one-third of a crop. It is very dry at this time, and no honey coming in.
CHAS. AND WARNER MILLER.

Washington, Va., July 24.

1. Not a large amount of honey-dew; 2. Not mixed badly; 3. About a third of an average crop; 4. We doubt if prices will be any higher, as some honey is a little dark, and a large part badly stained.
MIDDLEBURY, Vt., July 8.

J. E. CRANE.

1. The crop is larger than last season, and, with the exception of a few places, it is mixed with honey-dew. I have continued to learn of every one that comes in, or those I have occasion to write to, and the report is the same; 2. Good yield, but mostly dark. There was but little basswood honey gathered in our city, none in the valley of Virginia; considerable white clover there, but mixed as stated above; 3. I think prices will range as last season; what has been sold here is about the same; 4. The body of the honey is fine—quite a little sugar.
WM. KERRICK.

Washington, D. C., July 30.

I had a fine flow from raspberry and clover; went from raspberry to willow-herb.
E. A. CLEAVES.

Cornell, Wis., July 23.

Honey will be a fair crop here unless the fall is very dry; good yield of clover, or fair.
A. B. WHITE.

Vesper, Wis., July 27.

1. None; 3. Clover and basswood; about half an average crop; 4. Think higher. Bees have done nothing for the past ten days.
ELIAS FOX.

Hillsboro, Wis., July 30.

Quite a little honey-dew around here; will color white honey somewhat; little basswood; half a crop all told, in general; my own, one-fourth crop or less. Dealers holding 1908 crop will control prices. National reports of honey-dew blacker than usual; Missouri worst, then Southern Illinois, Indiana, Iowa.

Platteville, Wis., Aug. 3.

N. E. FRANCE.

So far the honey crop is very short. My bees did poorly on clover, and still worse on basswood. Basswood bloom is *very light*, and after the first week weather conditions were such that there was little or no honey in them. It is a little early to give a full report, as the season was late this year.
Rock Elm, Wis., July 29.

B. J. THOMPSON.

1. Nothing so far of any note or worth considering; 2. I don't think so; none noticed; 3. Below the average; season very late because of cold and wet; unfavorable weather; brief honey-flow cut short by dry weather; alike, basswood, and sweet clover yielded a little for a spell; 4. I look for better prices and better demand. Last year no demand here; now, good demand looked for. If buckwheat and fall flowers yield it may modify this report. Conditions are not favorable.
H. H. MOE.

Woodford, Wis., July 31.

It will be noted that the commission men apparently believe there is a greater crop than would appear from the surface indications. They are in position where, if they report the crop as small or light, or lighter than it is, they will be compelled to pay too high a price for the product. On the other hand, it will be observed that the *producers* possibly are a little inclined to represent the crop a little lower than it probably is in order to boost the market or to hold it from getting too low. The buyer and the producer will have to take into consideration these conflicting interests, and fix the price accordingly.

Incidentally it will be noted that these reports show where honey has been produced of a certain grade and quality, and where, of course, the same can be purchased. We hope by this means that an outlet at good prices may be secured by producers generally.

For a general summary see Editorials.

EUROPEAN FOUL BROOD IN DR. MILLER'S APIARY.

OUR readers will be very sorry to know that Dr. Miller has a double calamity at his bee-yard—an entire failure of the honey crop, and an attack of European or black foul brood. Failure of the crop is bad enough; but a visitation of this disease is infinitely worse, because it sometimes takes two or three years to eradicate it from a yard. It is possibly true that some apiaries in York State have never cleaned it up entirely.

In a letter received from Dr. Miller he states that, in spite of the calamity, he is looking on the hopeful side, and is having a "lot of fun" treating the disease. No doubt the good doctor will be able to give something valuable from the experience; but "experience" of this sort is like the kind that Josh Billings tells about; namely, "Experiens teaches a good scule, but the tuishun comes rather hi."

HEADS OF GRAIN

FROM DIFFERENT FIELDS

WHAT IS THE CAUSE OF THE BROOD BEING CARRIED OUT BEFORE IT HATCHES? DRONES OF DIFFERENT COLOR FROM SAME QUEEN.

I have a colony of poor hybrids which was queenless for some four or five weeks. I introduced an untested queen. The brood is dying before it hatches. Every morning there are some ten or fifteen young bees on the alighting-board and in the entrance, dead. They are white, and I can't detect any bad odor by smelling of them. What is the cause? Is it because the queen is young? or does the brood from a young queen sometimes fail to hatch?

Do bees carry away the brood when it dies from foul or black brood? The workers carry the dead brood away in the morning when they go to work.

I bought an untested queen, and some of her drones are yellow and some are black. Her workers are all three-banded. Now, why are her drones not all the same color?

One other queen that I have will, if I give her drone comb, lay as many drone eggs as worker. If I understand your A B C book, a queen so young should not lay many if any drone eggs. Am I right, or did the queen-breeder give me an old queen?

Arlton, Ark., July 1.

B. F. LEWIS.

[There are several things that might account for the bees carrying out the brood before it hatches. The presence of the moth-worm in the hive might be responsible for it. In hives of pure Italians, and generally in hybrid colonies, a mixture of Italians and blacks, the pest will not be tolerated; but if the hybrids are almost black, you might find moth-worms under the cappings; and, if so, this would account for some of the brood being carried out.

It is more probable, however, that the trouble is due to some other cause. Once in a great while a queen is poor so that her brood will fail to hatch. In rare cases no larvæ will hatch from the eggs; in other cases a queen's larvæ will hatch out all right, develop almost into perfect bees, and then die.

Bees never carry dead larvæ or foul brood out of the hive; but they might do so in the case of black brood. Perhaps some one who has had more experience with this disease than we have could enlighten us on this point.

The markings of the drones are no test for the purity of the queen. If the bees show uniformly three-banded workers you may assume that their mother is a pure Italian. Drones and queens from a pure queen will sometimes vary greatly in their markings. As a general thing, queen-breeders select a mother that will give uniformly marked drones, bees, and queens.

Referring to your last paragraph, it is possible that the queen you purchased was more than a year old. While it is a rule that a young queen is not inclined to lay drone eggs, yet if there were a lot of drone comb mixed in with the worker she would be quite likely to lay in the drone-cells, whether young or old.—ED.]

INTRODUCING QUEENS BY MEANS OF DAMP SMOKE.

As it was my lot to introduce some hundreds of queens last season I decided to experiment somewhat along that line, and, if within the scope of my good fortune, to discover some safer and quicker means of introducing. I felt that the method in common use among most bee-keepers is rather slow, especially when one is in great need of brood in the hive, as when the colony has been queenless for a long time, or, again, when a bee-keeper purchases a queen late in the fall and is anxious to get a test from her the same season. In the latter case, is it very necessary to have her lay as soon as possible?

By the method in present use one should keep the queen caged at least two days, and five is a much safer number. I mean to give here a method that I can positively rely upon to introduce the queen without danger to her in any way; also by this method one may expect a laying queen the second day if she is a good fertile one.

This method (the only one I now use) is as follows: To begin, place a lighted piece of cloth of heavy texture in the bottom of the smoker. On top of this, press in tightly a layer of dry grass, and on this a layer of partially green grass. Now open the hive and remove the queen; or if the hive has already been prepared, do not open it at all, but proceed at once to puff a good

quantity of smoke in at the entrance. Next take the cage (containing the queen to be introduced) in the left hand and proceed to smoke the queen. Do not place the smoker close enough to her to burn her. After giving her two or three strong puffs, remove the cover from the hive and release her among the bees. Next work the bellows of the smoker rapidly for a short time so as to get up a furious blast of dense damp smoke (the smoke is made damp by taking up the moisture set free from the green grass. Now having the hive closed up all but the entrance, blow in a heavy volume of smoke and close the entrance for about thirty seconds. During this interval the bees will have fanned the smoke to every part of the hive, and this smoke, being heavily laden with a very adhesive and disagreeable sediment, every bee is soon clothed in a thin, invisible, sticky garment of damp ashes. Of course the queen gets treated to a similar application, and by the time the smoke leaves the hive the bees can not tell the new queen from their own, as the newly introduced queen and the bees are now alike covered with a substance smelling the same.

I am quite willing to risk the introduction of the most valuable queens to this method of proceeding. However, as a precaution against not having used enough smoke, it is best to examine the hive shortly after and see if the dose needs to be repeated.

Sandusky, W. Va.

C. O. FLUHARTY.

[While it is possible to introduce a queen in the manner you describe, by smoking the bees and queen furiously, we think you will find in almost every case that some damage has been sustained both by the queen and the bees. We used to work the method somewhat before the modern introducing-cages were constructed, and while we could introduce by that plan, we are very sure now it was at a sacrifice of the vitality of the queen as well as of the bees. We would be of the opinion that, if you would go back to some of those colonies a day or two afterward, you would find too many dead bees out in front of the hive, and also find, a little later on, that those colonies will lose strength rather too rapidly.

Then it is a question whether such an excessive amount of smoke is not really cruelty to animals. Sometimes when we have smoked bees vigorously we have inhaled a considerable quantity of the fumes ourselves. After one of those strangling spells we have always made the resolve that we would never smoke bees again in that way. When you smudge bees as you describe, and then close the entrance, you are putting each individual bee in extreme pain. Such treatment can not do other than damage the colony, in our opinion.—ED.]

PROPOLIS OR TRAVEL STAIN IN PUNICS.

Mr. Root:—Noting what you and Dr. Miller say on p. 391 about greasy sections and Punics, I can not refrain from offering a short reply. I know nothing about Tunisian bees, or Punics, as they are sometimes called, but take your statement as correct, namely, "Now that you [Miller] recall it, we remember very distinctly that there was a general complaint against Punics because the capping of their honey was so *dirty-looking—apparently travel-stained*." We remember very distinctly that combs of two or three colonies we tested looked dirty, and the cappings themselves presented any thing but an inviting appearance, even though the honey itself was clover and basswood." (Italics mine.)

Again, on page 59 of the A B C book in regard to the Tunisians you say, "These are a black race, natives of North Africa, sometimes called 'Punics.' They have been tested to some extent in this country, but so far have not been able to establish any claim in their favor that would entitle them to any consideration on the part of American bee-keepers. They are cross, and so inclined to *smear every thing with a red bee-glue* that they would be entirely unsuited for the production of comb honey." (Italics mine.)

We all know what propolis (bee-glue) is. We all know how much more inclined some races of bees are to smear their combs, frames, and hives than others. We all know what travel stains are, and their cause. We all know, or ought to, that none of these elements enter into the production of watery or greasy-looking cappings. The one is no more like the other than chalk is like cheese. While greasy-looking cappings are pure wax, the other is an entirely different substance, mixed more or less with dirt. We are very willing to admit that some races of bees, like some races of humans, are not very neat housekeepers. A noted instance of this fact, and one familiar to us all, is the bumble-bee; and yet no one, I think, would call the cappings of its comb greasy.

Tell me why it is that not a normal populous colony of bees can be found in the fall of a season of good honey-flow, whose brood-chamber has not been disturbed during the season, that has not more or less greasy-looking combs. Again, where are they to be found? Right in the hottest part of the hive. They look, for all the world, like the cappings of greasy sections. Like causes produce like effects; else, in our reasoning we should be like a mariner at sea in a cloudy night without a compass. If the queen is responsible for such a condition in the case of greasy capped sections, then she is in the case of greasy-looking combs. Corollary, "pinch the head" of every queen in the apiary, worth preserving. But, to conclude, I submit to your candid judgment whether you think it quite fair to claim that the cases quoted above are identical with greasy or watery-looking cappings.

Evanson, Ill., July 8. W. M. WHITNEY.

[While we acknowledge that there is a difference between travel stain and propolis stain, yet, as we now remember it, the Punic race of bees produced comb honey that had greasy, watery cappings. In addition they put a red propolis on the surface of the comb. Perhaps there are those among our readers who have had Punic bees who could give a general statement as to the kind of cappings these bees make. So far as we know, their undesirable qualities were so pronounced that no one has them now in this country.

Your questions in the last paragraph we will refer to Dr. Miller.—ED.]

MORE ABOUT THAT CASE WHERE 300 COLONIES WERE POISONED FROM THE SPRAYING OF FRUIT-TREES WHILE IN BLOOM.

Referring to the editorial, page 327, June 1, I wish to report as briefly as possible on the question of using combs where the bees have been poisoned from fruit-bloom spray. Unfortunately for public information I did not get the inquiries from the department for samples until too late. I am quite sure that it was arsenate of lead. Five yards here are located within a radius of one and a half miles of the orchard where the spray was used, and they all went down at that time, and no other yards in the valley showed any symptoms. That was proof enough for me; but I realize that definite facts are needed, and I should have liked to have an analysis of the poison. What facts I can give are as follows:

The man who sprayed his trees used 2 lbs. arsenate of lead to a barrel of water. He sprayed just before the last blooms dropped the petals. Five days after the spraying I noted that all was not well, but did not look into the hives until on the seventh day, when I found 14 dead colonies and took note that three-fourths of the strong hives had dwindled to about the strength of a weak three-frame nucleus. In others I found only the queen and fifty to one hundred workers alive. In all cases the queens seemed to live right up to the last. I conclude that, since the queen is fed predigested food, only bees not yet poisoned lived long enough to feed the queen. Finally she probably ate some of the poisoned honey, for I caged about ten of these queens, which I found left with only a few bees, and took them off to another yard to put in some three-frame nuclei I had at the time, and half of them were dead when I got there; and of the five introduced, only one lived.

On the tenth day some of the hives which had been as strong as three-frame nuclei had dwindled so as to have almost no living brood, and about enough bees to make a one-frame nucleus. I took the queens from these and used them with perfect success to requeen three-frame nuclei in other yards. To their bees I gave virgins and cells, and in that way made good use of them as queen-raising nuclei. Since the poison hit our queen-raising yard it set us back with our queens, and we noted that many of the cells which were being sealed at that time did not hatch, and showed evidence of the poison when cut open later.

As regards the use of the combs or other colonies, we are using them all, and no trouble to amount to any thing arose from the use of them; but the bees were not storing much honey when they got the poison. They were, perhaps, getting all they could use but no more. In a few cases I noted that some of the brood next raised in the combs taken from the dead colonies died—just a cell here and there. In regard to distance, the bees seem to have died almost as much at a distance of one and one-half miles as those located only a few hundred yards from the orchard.

O. B. METCALFE.

Mesilla Park, New Mexico, June 20.

BITTER HONEY COMES FROM HOLLY-TREES.

On pages 412 and 413, July 1, Jas. Bachler and Byron French speak of bitter honey, and you advise them not to winter bees on it. This honey is from holly, and is fine for wintering. It is a very nice honey, with the exception of a peculiar flavor. It is far from being bitter, although any one who eats it would pronounce it very bitter. The honey is not dark, but light and medium amber, and of good body.

The holly-trees do not yield honey every year, but have yielded abundantly this season. One can use two shallow frames in the middle of the super, and catch the bitter honey from holly, provided he has the foundation drawn in all the sections. If not, the comb made during holly bloom would have to be discarded; but those two drawn combs will catch the holly honey. The bees must not be allowed to build comb in sections during holly bloom. Some people like the bitter honey, and we have three customers who always ask for fresh holly honey. But I confess I do not see how they can like it. The honey is safe for the bees to winter on.

When extracting holly honey, uncap a little deeper than usual, for later you may wish to cut out some chunk honey from the same frames. The bitter taste seems to leave the honey somewhat when given a thorough airing for three or four days. This makes some extra work during holly bloom. I would advise leaving this honey of Bachler and French in the sections and letting the bees have it for winter, and see how they do, and use the combs as baits in spring. Of course it would not do to sell honey stored in combs made of holly honey entirely. Such combs would have to be removed and placed on again for holly when it comes into bloom.

Southern goldenrod gives bitter honey in the fall. It is best to remove all surplus when goldenrod is blooming. This is usually in October, and there is no use for supers then any way.

Silver Creek, Miss., July 10. E. A. MCVADON.

[We would question somewhat whether the bitter honey referred to by our correspondents on pages 412 and 413, one located in Arkansas and the other in Missouri, was the same as that to which you refer. While, possibly, the holly grows in both localities, yet from the description given by these other correspondents we should infer that they have in mind honey that is not only bitter but of very poor quality. The Arkansas man says it is "uneatable," and we should infer that the stuff from Missouri was honey-dew.

Perhaps those two correspondents, Mr. French and Mr. Bachler, can inform us whether they have the holly-tree in their vicinity, and whether they know that the bees were working upon this source at the time the bitter honey complained of was being gathered.—ED.]

HOW TO TAKE CARE OF SWARMS SO AS TO HAVE NO INCREASE.

When the prime swarm comes off, put it in a new hive on the old stand with starters in the frames. Put the super on; then move the old hive back for 24 to 30 hours. By this time the bees will have built some new comb which will, perhaps, contain some eggs. Then take out all of the frames from the hive containing the swarm and put in the frames with brood that was in the old hive. This makes it virtually the same as it was before swarming. Put on the old super as it was before swarming; then the bees will have gotten over their "toot," and will settle down to work. This plan has worked with me in this locality, and I think it would work in any place.

Campbell, Cal., May 10.

M. S. PHILLIPPE.

PARENT COLONY LEFT WITHOUT QUEEN OR CELLS.

Can you tell me what made my bees swarm? After hiving I went through the parent colony and found neither queen nor cells, but every frame was filled with brood nearly ready to hatch. I put on an extra super, making two, and put the swarm back.

Union City, Mich., July 16. S. D. BUELL.

[We should be inclined to believe that there was some cell in the colony that you did not observe. One may go through a hive two or three times and still fail to observe some cell inconspicuously located.

But, even supposing there was no cell, if there was general swarming among other bees the colony might take a notion to cast a swarm, cell or no cell. However, as we have elsewhere stated, it is an axiomatic principle in bee-keeping that bees do nothing invariably.—ED.]

OUR HOMES

BY A. I. ROOT.

Whosoever liveth and believeth in me shall never die.—JOHN 11: 26.

The above text has always been a very precious one to me—that is, since my new birth, which many of the older ones remember. When I was a child in the Sunday-school I read about this wonderful miracle of restoring Lazarus to life; and with a childish faith I accepted it, for it was right along in line with the teaching of my good old mother. Later on, when I permitted myself to be led into Satan's snares I somehow lost faith in these precious Bible promises. But I found no *comfort* in skepticism and no *inspiration* in infidelity. When my eyes were opened, when I was about thirty years old, I awoke to the sinfulness and *hopelessness* of the way I was then traveling, and then this passage came out like letters of fire written on the blue vault above—"Whosoever liveth and believeth in me shall never die."

After he had repeated this, the dear Savior said to Martha, "Believest thou this?" And I want to ask of every reader of GLEANINGS, young and old, friend and foe, black and white, rich or poor, "Believest thou this?" Do you, my friends, each and every one of you, honestly believe that whoever *lives* and *believes* in Jesus Christ as the Son of the living God *shall never die*?

After the previous Home paper had gone to press I read it over a good many times, and I am going to read it more while I have reason to think that toward 30,000 copies of GLEANINGS are being dropped into the homes of our land. When I have dictated a Home paper that I think is going to prove helpful and do good it is a great pleasure for me to think, while I am reading it over, that *you, too*, are reading the same words; and I hope and pray that the Holy Spirit may be with you while you read, and that he may carry the message that I have tried with my feeble voice to send to you. May God in his gracious love and kindness send the Holy Spirit with the message I am going to give you now.

To be real honest, I suppose I shall have to confess to you that there are times when I am tempted to disbelief. We know very little about the future. Nobody has ever come back. I remember vividly when the spiritualists claimed to have made connection or established communication, if you choose, with the other world; but it never satisfied me. Through the years that have passed since the spirit rappings came up before the world, I have carefully investigated these messages from that dark *beyond*; but none of them have ever convinced me of their genuineness. None of them have the stamp of *truth* on them. I can not understand all the phenomena of clairvoyance and hypnotism and many of the other things, call them by what name you will; but I feel satisfied and sure that no communication

has ever been received so far, from that other shore, in any of these ways.

I have before stated it as a fact that we used to have infidels—men who rejected the Bible as the word of God; but so far as I know just now, they have mostly dropped out of sight. I think I know something of what is going on in the world, because, during the past few weeks, I have been hastily reviewing, or trying to review, all the periodicals that come to us by way of exchange or otherwise. I glance hastily at the magazines, agricultural papers,* and the scientific literature and religious periodicals, and two or three dailies printed in different parts of the United States. I see publications, too, from abroad, and some from the islands of the sea, but in all of them little or nothing that favors skepticism. All mankind seems, by common consent, to have united in acknowledging that there *is* "a God in Israel." The Bible, too, is held in higher estimation than ever before since the world began.

Who is it that said, "Whosoever liveth and believeth in me shall never die"? Peter's answer, that has been echoing all over the world from shore to shore, seems to be echoing still, "Thou art the Christ, the Son of the living God." Years ago there used to be a few silly people who refused to accept the evidence of the scriptures. Some of the "higher critics," as they style themselves, of recent date, have presumed to doubt the miracles or have tried to explain them away; but if I am correct they do not get a very large audience. The New Testament tells us who Christ was. In Matthew 3:17 we read that a voice from heaven proclaimed, at the time of his baptism, "This is my beloved Son in whom I am well pleased." In order that the world might receive and accept this beloved Son as such, God gave him credentials. He went about healing the sick. By the way, friends, is there any other way in which our gracious Lord could have proven his divinity as he did by healing those who were in distress and pain? All mankind was in need, but there was no one to give relief from distress. Most of his miracles were along the line of healing.

Away back in my boyhood, when I went to Sunday-school one of the most wonderful passages to me was where Jesus stilled the tempest as recorded in the 4th chapter of Mark, 8th of Matthew, and 8th of Luke, and I often think of it now. He said to the boisterous winds and the lashing waves, "Peace, be still." With all that has been accomplished with modern science we have never

* While I am about it I want to say that it delights my heart to note the splendid moral tone of almost all the agricultural papers printed in the different States. Just now almost every State, and perhaps *every* one in the Union, has its leading agricultural periodical. All these farm papers are strong and clear on the temperance issue, especially those in the South. They are all down on gambling and every dishonest undertaking. Of course they are misled occasionally (especially in their advertising columns); but it rejoices my heart again to note that they are fast coming to the point of refusing misleading advertisements. I long to see more of the poultry journals come up on "higher ground" in this respect.

had any thing like that. No wonder his disciples asked, "What manner of man is this that even the winds and waves obey him?" This wonderful miracle paved the way in my boyish imagination for the raising of Lazarus, thus demonstrating to all the world that our Lord was not only master of the winds and waves, but at his bidding even death gave up its claims.

Any one who will take the time and pains to read carefully the New Testament will, I think, be compelled to decide that it is a *truthful* history. None of these things were done in a dark corner. Jesus came out in open daylight. Most of his miracles were performed before crowds of people—no midnight with its darkened room. In fact, his whole life attested what he said, "In secret have I done nothing." There is a certain air of honesty that runs all through the New Testament that stamps its statements as truthful.

It has been my good fortune, at least as a general rule, to have my statements accepted. In only a few times in my life have I been accused of untruthfulness. When I first gave the story about the Wright brothers, and said I saw them fly with their machine and come around to the starting-point, I was disappointed because my report created so little sensation. The Wright brothers have *recently* made stir enough in the world; but when I first introduced them to the world I was surprised and disgusted. While at Dayton some years ago I met Mr. Chanute, the man who had made experiments with gliding-machines, even before the Wright brothers had, and a man who is widely known all over the world wherever there is any interest in flying-machines. When I was introduced to Mr. Chanute he paid but little attention to me. That did not hurt me at all, for God knows I did not care to be exploited. As the party broke up, Orville Wright handed Mr. Chanute a copy of our journal, turned over to the pages that gave my story, and suggested to him that he might be interested in reading it after he got to his hotel. The next morning, when we met again, Mr. Chanute's face had changed. He came up to me with a very friendly greeting and put out his hand. When I told him that I was much disappointed, when I wrote the article, to find that it elicited so little interest, he replied something like this: "Why, Mr. Root, your readers all supposed that it was a made-up story. The way in which you talked about Christopher Columbus putting out on the unknown deep and all that, made people believe it was a sort of fairy story, such as we find in our magazines every little while—stories so much mixed up that one can not tell which is fact and which is fiction. The world did not believe you were *telling the truth*."

I replied something as follows:

"Mr. Chanute, I am in the habit of having *strangers* doubt my statements; but those who are acquainted with me, and know my way of talking, and those who have read my department in our journal for years past,

ought to know that I tell the truth. Furthermore, that article has the stamp of truth on it from beginning to end. I mentioned the locality, and the things that happened, in a way that would convince any reasonable person that what I related really occurred."

He glanced over the pages again and said slowly:

"Well, I guess that is so to a great extent; but what you are telling is *too wonderful*. The world is not yet ready to take it in."

I turned to Mr. Chanute and the Wright brothers, and then said:

"My friends, none of you know what you are doing. I am sure you do not recognize the unexplored field that you are opening up."

They laughed at my enthusiasm; but to-day, this 30th day of July, 1909, I think most people who read this will say I was right. My enthusiasm was not misplaced. I did not think, however, that it would take so many years for this world to wake up as it has done.

I have used as an illustration the Wright brothers and their flying-machine, and I wish to say again that there is a still more wonderful unexplored region in the line of our text than in any thing else on the face of the earth. Those who are experienced in the affairs of the world can judge pretty well whether a statement is true or not. Certain people, certain books, and certain articles in the papers have the stamp of truth on them; and this New Testament account of our Lord Jesus Christ has the stamp of truth on every page. The narrators may have made some trifling mistakes, but they are honest. The Bible is the word of God. I know not the future; but I am satisfied to risk it with him who said, "I am the resurrection and the life. He that believeth in me, though he were dead, yet shall he live."

When I am visiting in some distant State or city I feel lost and unsatisfied until I find a bee-keeper — somebody who has read GLEANINGS; and, oh what a pleasure it is to be shown around by some one in that locality! Now, when I go into that other world I expect to be received and welcomed in a similar way. He who said to the winds and waves, "Peace, be still," and was obeyed, is my friend. I know he is my friend because I have been working for him all these years. I have been working with him, and know that he is pleased with my work in the temperance field. I know that he sympathizes with me in my efforts to discourage the use of tobacco. I said to the clerks years ago, when I was told what a lot of stamps it took to send out smokers that Dr. Miller has alluded to, "Do not worry. The great Father above will furnish the postage;" and, dear friends, the money has come, and for every thing else I have undertaken for him.

Now just a word more about

UNEXPLORED REGIONS.

About forty years ago I was obliged to ride a good many miles on a freight train. On

the caboose car, occupied by the train boys, I found only a Bible and an almanac to while away the hours; and as the train moved slowly I read the Bible and the almanac alternately. Now, it is a sad confession, but it is honestly true, the Bible at that time did not interest me nor take hold of me. I remember distinctly of thinking that the patent-medicine almanac interested me more than the Bible. The Bible at that time of my life was an "unexplored region." I did not comprehend it nor understand it. The reason for it was because I was not living in harmony with its teachings; and, worst of all, I did not *propose* to live so. This is a sad confession for me to make, but it is the truth. Now, in one respect I was honest about it. The Bible *did not* interest me. My eyes had not been opened. The scales had not fallen from them. Let me illustrate:

I hold in my hand an instrument containing a very minute particle of radium. A label is pasted on the instrument reading as follows:

The radium in this spintharoscope is in the form of bromide of radium, and has an activity of 300,000. The observer must remain in an absolutely dark room for four minutes before attempting to view the emanations.

WILLIAMS, BROWN & EARLE,

Sole American Agents, 918 Chestnut St., Philadelphia.

Now, if you take the instrument out in broad daylight, and put it up to your eye, you can not see any thing at all. You might as well try to look into an iron wedge. When I first received it I could hardly believe there was *any thing* to be seen in that opaque body. There was no light whatever. I went into a dark room and remained there for four or five minutes, and even then I could not see any thing. I was ready to exclaim, "Humbugged again!" for the instrument cost me ten or twelve dollars. However, I went over home and went into a very dark clothes-press and stayed several minutes. Then I began to get a glimpse of the glittering stars as they poured forth unceasingly from that little speck of radium. Then I discovered, almost for the first time, that the loving Father had so formed the human eye that one can accustom himself to seeing in the dark. If you look at the sun, or go out on a bright winter's day, the pupil of your eye will contract so that, when you go back indoors, you can not see any thing for some time. The eye must change so as to adapt itself to the amount of light. In the same way, when you step out of doors on a dark night you will say at first, "Why, you can not see an inch before your face;" but stay out in the pitchy darkness for ten or twenty minutes and you can see a good many things quite plainly that were at first invisible. The label on the instrument says four minutes; but with me it takes fifteen or more for my "second sight," if I may so call it, to get fully developed.

After I had had the radium quite a spell, one night I left it on the stand by my bedside, with the cover off, and when I had occasion to get up about midnight I was astonished to see the scintillations shining out from that little instrument so I could see

them clear across the room; and I then discovered that the eye can see a great many things, after being a *long time* in pitchy darkness, that can not be seen otherwise. Within a few days this fact has come out quite vividly in my work with the new egg-tester. I have been studying the incubation of eggs for two or three years past; but it seems I have been so stupid that I never learned, until a few weeks ago, how to see the movements of the chicken inside of the egg. Well, I have just found out that the eye needs to be trained in the same way that it does to see the shooting stars through this spintharoscope. Now, if you enjoy what I am going to tell you as much as I have enjoyed going through this great "unexplored region," you will feel very happy, and I shall feel very happy too. You want either a sitting hen or an incubator—one is as good as the other. But they should be, for convenience, in a room that can be darkened. Shut out every ray of light except a round hole where the sun can shine through, say in the forenoon or afternoon. Make an egg-tester as I have described, and let this ray of sunlight strike the egg on the end where the air-bubble is. You should have white thin-shelled eggs. The sunlight will go through the shell where the air-bubble is, and will illuminate the whole inside of the egg enough so that your eye, while in the dark room, will see much that is going on inside, and by making a test every day you can see just how the chicken grows. Your first glimpse will probably be from three to five days after the chick has started. On the thirteenth day I saw one of these chickens put its foot down against the shell as plainly as if the chick had stepped in ink and then walked on a white cloth. And I saw it put down the other foot and make a step. Now, before I was enabled to do this I had to practice a good many days to get the conditions just right, and to see what is possible to be seen by a trained and enthusiastic experimenter.*

Well, friends, in order to see what is in the Bible you must go at it exactly as I have been doing to investigate animal life in the egg. The condition given in our opening text is that we must not only believe but "live" in Christ Jesus. I did not understand the Bible, and I could not comprehend it, because I was not living† with the lowly

* If you are using spectacles you will need a pair for this purpose with very strong magnifying power. I use a pair of eye-glasses with only six-inch focus; and as you will probably have to get the egg rather close to the eye to see it to the best advantage you may be obliged to whittle down your paper box to let the eye come within the proper distance of the egg. Young people with good eyesight will use the egg-tester readily, that I described on page 384, June 15.

† Before I could get a glimpse of the shooting stars from the radium, or see what was going on inside of the eggs, I had to comply with certain conditions—keeping in a dark room until my eye had adjusted itself to see things that would otherwise be invisible. Well, in just the same way, in order to inherit everlasting life with Jesus Christ we must put ourselves in harmony with certain conditions. Notice the word "liveth" in our text. We must be living with him and making his work our work—his sympathies our sympathies; and, finally, when we are both living with and *believing* in him we shall *never* see death.

Nazarene. Just as soon as I accepted him as the Son of God and began studying the New Testament to see what it said about him my eyes were opened. A new and heretofore unexplored region, to me, was opened up, and I comprehended for the first time what it meant to live for humanity and not self; and one who thus lives and starts out to live shall most surely "never die." "Believest thou this?"

POULTRY DEPARTMENT

BY A. I. ROOT.

A COMPLETE CHICKEN-FACTORY FOR ONLY 50 CENTS, AND SOMETHING ALSO ABOUT OTHER "GREAT BARGAINS."

For several years past I have been showing up, every little while, the "Natural-hen Incubator." In the first place, the advertisement in the poultry papers and other periodicals is deceptive and misleading. It is not an incubator at all, and they have no incubator for sale. They simply describe on a single sheet of paper how to make an arrangement for a lot of sitting-hens, with a little dooryard for each, and call it an *incubator*. They claim to have some sort of patent on it. Perhaps they have; but the whole thing has been described in our farm papers and poultry books for years past. They claim it will enable one to make a sitting hen stick to her business when she does not want to. This is not true. Just as I write I am having trouble in getting a sitting hen to stay on her nest instead of gadding about in the little dooryard. The chicken-factory they offer for sale at such a bargain is worth \$5.55; but in order to "make it easy for poor people" they put the price away down to \$2.00. If the prospective customer does not send the \$2.00 they follow him up after a while with a circular offering to let him have *the whole outfit* at half price if he will order at once. They have been exposed so many times, however, that I suppose they are not having much business; for in to-day's mail I got the following:

OUR SPECIAL INTRODUCTORY OFFER

Is a loss to us at first; but in order to get our new improved natural-hen-incubator plan introduced right quick, and to see if you mean business, we will send you our whole complete chicken-factory, listed at \$3.55, all for the small sum of only 50 cts., and even this small amount will be returned if, upon receipt of the same, you are not highly pleased. Can any thing be more fair?

Do not ask how we can do it. We simply do it in order to get our natural-hen incubator introduced in your locality before the season advances too far.

Los Angeles, Cal. NATURAL-HEN INCUBATOR CO.

Please notice in the first sentence the words "is a loss to us at first." How can there be any loss when they get even the small sum of 50 cents for some printed sheets of paper that do not cost them one cent? In fact, we should like the job of duplicating their printed matter for one cent each if they will

take a lot of them. It is the old story of charging the price of a *good-sized book*, and furnishing only a single sheet of paper. So far as I can discover, not a single poultry journal has helped to show up this thing, and I guess the biggest part of them accept without question the advertising of the "Natural-hen Incubator." They sign themselves "Yours for up-to-date methods." I should think it was "up-to-date methods"—methods for getting money from simple and unsuspecting hard-working people. Some of you may urge that they agree to return the 50 cents if you are not satisfied. Yes, I know they do that; and this may be some extenuation for their manner of doing business. But, notwithstanding, they are getting the money from people who do not know that everybody has a perfect right to make hens' nests with little dooryards, without buying a patent right or a secret.*

While I am about it I wish to say something about an ear-drum advertisement along this same line. The price of the artificial ear-drum is \$5.00; but in the anxiety of the proprietors or promoters to relieve human infirmity they will let you have the whole outfit for just \$1.00, with the understanding that you send the other four dollars if you are satisfied. Well, there may be some people who are satisfied; but their ear-drums did not help my deafness a particle, and so I returned them, but in this case no dollar came back. Now, these little ear-drums, made of rubber, are so light that they weigh hardly more than a postage-stamp; and if made in quantities I should not wonder if a two-cent stamp would pay the cost of them. I suppose that something that would help the loss of hearing would be worth \$5.00 to me, or a good deal more; and perhaps we ought not to grumble, even if they did not cost more than a nickel to make it. But I protest against this whole business of charging \$25.00 for something that cost only 25 cents. You remember, doubtless, about electropoise and oxydonor that I believe were first exposed in GLEANINGS, and how some of the victims abused me because I said the humbug toy never did anybody a particle of good except through imagination. Where are electropoise and oxydonor now? When the *Rural New-Yorker* turned in and backed me up, people began to sit up and take notice before they invested their \$25.00, so as to avoid the necessity (?) of ever calling a physician into their home.

While I am on this subject I wish to say a word about the celebrated Wonder berry from Luther Burbank. When we were down in Florida, Mrs. Root read the adver-

*I know quite a few who have invested in the natural-hen incubator, thinking it a good thing—at least their testimonials read that way. Now, even if this is true I still insist that the man who sends 50 cts. for a secret or system should get some sort of book for his money. The proprietors could have well afforded a neat little book describing their method of using the sitting hen, for the \$2.00, \$1.00, or even 50 cts. that they get from those who answer their extravagant advertising. It just now occurs to me that GLEANINGS has given them *quite a little* advertising in the past, and they got it also *absolutely free of expense*.

tisement in one of the farm papers, and said we must have some of that fruit just as soon as we could grow it. I told her I felt sure it was not as represented, because it started out in about the same way as did the Garden huckleberry. If you want to know all about it, send 10 cents to the *Rural New-Yorker* for a trial trip of the farm paper that is doing more to expose these things than any other paper in the United States or the world. I think I shall have to confess right here that I myself have in the past been somewhat misled by giving space to both Burbank and John Lewis Childs here in these pages. If any of our readers have grown the celebrated Wonder berries, and find that they do *really* come up to the strong claims made for them, we shall be glad to hear from them.

WHAT SHALL WE DO WITH SITTING HENS? ANOTHER GREAT (?) DISCOVERY.

Now, friends, my discovery may not be new to all the world, and it may also not be true with everybody; but I have succeeded with it twice. In our last issue, p. 481, I spoke of that book, describing the manure incubator, and said the author claims that, by his process, he can get chickens in six days instead of waiting twenty-one. Now, the book, "Poultry Secrets," tells us about a hatching secret that has been for years regarded as a good thing by New England farmers. The secret was, to take the eggs out of the incubator during the last week and put them under broody hens; that in this way they could get rid of having chicks dying in the shell, besides saving the time of the hen. They state that, while it is best to transfer the eggs on the tenth day, they may remain until the fourteenth, and eggs have been kept even until the seventeenth and eighteenth day with good results. In the last case the hens would have to sit only two or three days. By the way, while speaking of this book, "Poultry Secrets," I want to tell you that it has now reached its 50,000. What a reformation these 50,000 little books have brought about! A great lot of secrets have been peddled out to poultry-keepers for \$1.00 or several dollars each; and, I am sorry to say it, the editors of the poultry journals have helped to keep up the fashion. But the whole book is now sold at so low a price that any poultry-keeper should be ashamed to be without it. Now for my discovery.

A few days ago I had fifteen or twenty chicks hatched out by some of my experiments with the incubator. There were hardly enough chicks for the fireless brooder, even in the month of August, and I was anxiously watching for a sitting hen; but no hen volunteered until I went to gather the eggs one afternoon. By the way, I always gather all of our eggs just as soon as they are laid, as nearly as I can. This avoids letting the hen get into the habit of eating her own eggs, and also helps to keep them fresh and clean in hot weather. It is a good plan, during the hot months, to put the eggs for table use into a refrigerator as soon as we

can get them from the hen. Well, I found that afternoon a broody hen, but she had just commenced. She was a young Leghorn pullet—perhaps a year old. She had never hatched any chickens, but she was just for the first time, probably, broody. I waited until after dark, and took her off the nest as carefully as I could; but she squalled so I had to shut off her breath partly, to get her to the nest I had prepared for her. This nest was a square box with a sliding door and hinged cover. She was so wild that when I dropped her into the nest and quickly shut the cover down she came near getting out by jumping up against the cover until I was obliged to lay a brick on it. I went back to the nest and got three warm eggs and gave them to her; but she was so wild and frantic that she picked at my hand and came pretty near getting out when I went to put the eggs in. I left her two hours to quiet down. I mention all of this to show you what a wild Leghorn she was. Mrs. Root says she would not have the Leghorns, because they are so "cantankerous." But this Leghorn spirit is just what I like about them. We have lion-tamers who profess great skill, and horse-tamers too. Why don't we have chicken-tamers as well? Well, two hours after I gave her the eggs I saw by the light of a lamp that she had settled down over them and accepted the situation. Then I went for my chicks and dropped eleven, that were about two days old, in one corner behind her. The chicks knew nothing about a hen for a mother, and she knew nothing about the chicks, and the point was to get the two parties introduced. Electricians would call it "making contact." After they began to get chilly on account of their removal from a warm incubator they began to peep. For a time she paid no attention to them; but as I made frequent visits I found pretty soon that she had decided to adopt the little orphans without sitting three weeks. In fact, she could not have been broody more than a few hours. She had changed her attitude, and given me to understand that she on her part began to comprehend me, and she gave the well-known maternal "k'r-r-r-r." They cuddled up under her feathers and she spread out her wings. She tipped her head to one side, and gave me a look as much as to say, "Now we understand each other." I wonder if there was not a little glimmering of regret in her hen nature to think how she squalled and scratched, and tried to peck the back of my hand. Dear friends, is it not possible that we sometimes squall and kick against Providence when God in his infinite love is trying to bestow a blessing? Well, that stubborn and contrary hen has from that time to this been a model mother. She now has 29 chicks, and she and I are the very best of friends. I am going to put a leg-band on her so I may know her in the future; and I would not take \$5.00 for her to-day—that is, unless I find out that my "discovery" will work every time, and with every sitting hen. This makes the second time I have

Continued on page 20, advertising.

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A complete treatise on the subject.

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A text-book for the beginner and advanced bee-keeper.

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Hans Buschauer

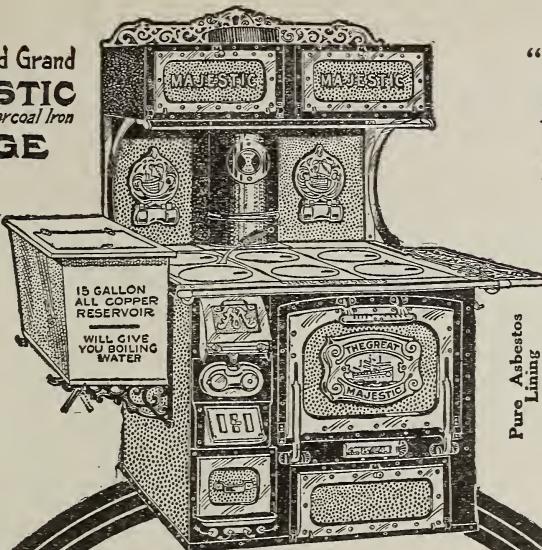
A hand-book for German bee-keepers. Neatly bound and illustrated.

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The Great and Grand
MAJESTIC
 Malleable and Charcoal Iron
RANGE

With water
 fronts if
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 pressure
 or other
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PERFECT
 BAKER
 FUEL
 SAVER



"The
 Range
 With a
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Body
 made of
 Charcoal
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 adding
 300%
 to life of
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There's Only One Best

— that's the Great MAJESTIC — it's so easy to make claims — but here's the proof — **Majestic Ranges outlast three** of any other make, because they're the only ranges made exclusively of **Malleable and Charcoal Iron** and they just **can't** break, crack or rust. Then, the air-tight joints and pure asbestos lining cuts your fuel bill in half and gives you a perfect baker every day in the year.

The MAJESTIC has a 15-gallon, all copper, moveable reservoir which heats water in a jiffy. No springs in the oven door — when dropped it forms a rigid shelf bearing any weight — oven rack slides out automatically, holding anything secure that happens to be on it. Another feature of

The Great and Grand
MAJESTIC
 Malleable and Charcoal Iron
RANGE

is the open end ash pan which acts as a shovel and a small ash cup under the ash pan — no muss or danger of fire about a MAJESTIC.

Each exclusive MAJESTIC feature makes this range more practical, more serviceable, more durable — the best range your money can buy regardless of price.

MAJESTIC Ranges are sold in nearly every county in forty states. If your dealer doesn't carry MAJESTIC Ranges, write us for the name of a dealer in your locality who does, and we'll send our booklet:

"THE STORY OF MAJESTIC GLORY"

MAJESTIC MFG. CO.
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It
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 Be in
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Out
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Money deposited with us is secure, and works for you continually. Our perfect system of banking BY MAIL brings this opportunity to your door.

The Savings Deposit Bank has a capital and surplus of \$70,000, and assets of over \$800,000. Its policy is conservative; its affairs are ably managed by capable and successful business men.

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THE SAVINGS DEPOSIT BANK COMPANY

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15 Cents a Rod

For a 22-inch Hog Fence; 16¢ for 26-inch; 18¢ for 31-inch; 22 1/2¢ for 34-inch; 27¢ for 47 1/4-inch Farm Fence; 50¢ for Poultry Fence 8¢. Lowest prices ever made. Sold on 30 day trial. Catalog free. Write for it today.

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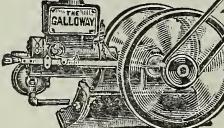
We are manufacturers, not merchants. Save dealers, jobbers and catalog house profit. I'll save you from \$50 to \$300 on my High Grade Standard Gasoline Engines from 2 to 22-H. P.—Price direct to you lower than dealers or jobbers have to pay for similar engines in carload lots for spot cash.

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Price and quality speak for themselves and you are to be the sole judge.

Sell your poorest horse and buy a

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You Can Make from \$25 to \$100 a Day
Direct From My Factory on 30 Days' Free Trial. Satisfaction or money back. Write for special proposition. All you pay me is for raw material, labor and one small profit. Send for my big **BOOK FREE**.

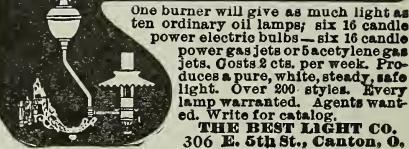
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Wm. Galloway Co.
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Waterloo, Iowa**FIX YOUR ROOF**

5c Per Square.—We will guarantee to put any old leaky, worn-out, rusty, tin, iron, steel, paper, felt or shingle roof in perfect condition, and keep it in perfect condition for 5¢ per square per year.

Roof-Fix *The Perfect Roof Preserver*, makes old, worn-out roofs new. Satisfaction guaranteed or money refunded. Our free roofing book tells all about it. Write for it today.

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THE "BEST" LIGHT

One burner will give as much light as ten ordinary oil lamps; six 16 candle power electric lamps; six 16 candle power gas jets or 50 incandescent jets. Costs 2cts. per week. Produces a pure, white, steady, safe light. Over 200 styles. Every lamp warranted. Agents wanted. Write for catalog.

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Swarthmore's Pedigreed Goldens
Swarthmore Apiaries, Swarthmore, Pa.

BEE-SUPPLIES Shipped Promptly.

Though the fire at Watertown has stopped the manufacture of the famous LEWIS BEE-WARE till the new factory is ready, we, as their agents, are filling orders promptly with Lewis Goods while they last, and with other standard bee-supplies.

ARND HONEY AND BEE-SUPPLY CO. (Not Inc.), 191 Ea. Superior St., Chicago, Ills.
Successors to York Honey and Bee-Supply Company.

Queens by Return Mail.

We have a good stock of nice young laying queens ready to mail upon receipt of order, and would be pleased to supply your wants. Our queens are noted for their prolificness and honey-gathering qualities, being bred from the best honey-gatherers obtainable, and mated with **SELECTED DRONES**.

PRICES.

	1	6	12
Untested.....	\$.75	\$4.25	\$8.00
Warranted.....	1.00	5.00	9.00
Tested.....	1.50		
Select Tested.....	2.50		

If you wish select untested or select warranted queens, add 25¢ each, \$1.00 for six, or \$2.00 for 12, to the list price. All cash orders booked and filled in rotation. Price list upon application.

W. W. CARY & SON, Lyonsville, Massachusetts.

Headquarters for
**NEW YORK
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Bee-
 Supplies
 of
 All
 Kinds.

THE A. I. ROOT CO.
 SYRACUSE, :: NEW YORK

THEY ARE HERE.

The Best and Largest Stock of Root's Goods
 Ever in Western Michigan.

As I was able to clear up my stock
 closely last season, every thing is new.
 Danz. and all Dovetailed hives with the
 $\frac{3}{4}$ bottom-boards. Shipping-cases with
 the corrugated paper. The newest design
 of extractors. In fact, every thing fresh
 from the factory, and of latest design.

**SEND ME A LIST OF YOUR WANTS
 AND LET ME MAKE YOU FIGURES**

The goods are here, my time's yours,
 and I want to serve yo.

I can still take a few more orders for my
 strain of bees and nuclei. See ad. in
 back numbers. And I want beeswax,
 for which I will pay cash or 3c above
 cash prices in exchange for goods.
 Send for my 1909 catalog (48 pages), free.

**GEORGE E. HILTON
 FREMONT, MICH.**

Shipping-cases

We have the "Root Quality" kind with the sliding cover and corrugated paper. We have just received a carload of them.

We want your beeswax for cash or exchange for goods.

We will have an exhibit of "Root Quality" bee-supplies at the State Fair, in Detroit. We will be pleased to have you call on us there. Our exhibit will be in the Bee and Honey Department.

M. H. Hunt & Son

Lansing, Mich.

Opposite Lake Shore Depot.



**Western Headquarters
 .. for ..
 ROOT'S GOODS**

My stock of goods is the largest and most complete carried in the West, and with car-loads being continually added I am in position to meet every want of the bee-keeper with promptness and satisfaction.

We sell **ROOT'S GOODS** here at Des Moines, Iowa, AT **ROOT'S FACTORY PRICES**, wholesale and retail.

Send for catalog to-day, or send us a list of the goods you need and we will name you prices, according to quantity, by letter.

**Address JOSEPH NYSEWANDER
 565 and 567 W. 7th St. DES MOINES, IOWA**

GOLDEN ITALIAN QUEENS

Bred from straight five-band mothers, mated to select golden drones, 3½ miles from three-band yard. These queens are large, vigorous, and prolific; the bees gentle and hustlers. Purity of mating, safe arrival, and satisfaction guaranteed. No bee-disease of any kind.

		1	6	12		1	6	12
Untested	Nov. 1 to July 1,	\$1 00	\$5 00	\$9 00	July 1 to Nov. 1	\$ 75	\$4 00	\$7 50
Select Untested	"	1 25	6 50	12 00	"	1 00	5 00	9 00
Tested	"	1 75	9 00	17 00	"	1 50	8 00	15 00
Select Tested	"	2 50	13 50	25 00	"	2 00	10 00	18 00

BREEDERS.—Straight five-band, \$10.00; Select Golden, \$4.00 and up.

NOTE.—For three-band queens at above prices, write J. M. DAVIS, Spring Hill, Tenn.

BEN G. DAVIS, - SPRING HILL, - TENNESSEE

CHOICE QUEENS

Golden and Red-clover Italians and Gray Carniolans

Select untested, 1, 75 c.; 6, \$4.00; 12, \$7.50

Tested, . . . 1, \$1.00; 6, \$5.50; 12, \$10.00

Select tested and breeders, . . . \$2 to \$4 each

Chas. Koeppen, - Fredericksburg, Va.

Long-tongue Italians by Return Mail

Mated to Golden Italian drones. As honey-gatherers I will put my strain up against any other strain or race in the world. Select untested queens, warranted purely mated, \$1.00 each; six, \$5.00; 12, \$9.00. Breeding queens, 1 year old, with honey record, \$5.00 and \$10.00.

W. M. Parrish, . . . Lawrence, Kan.

Dear Sir:—The queen I bought of you in 1906 yielded this year twice as much surplus as any other one colony I have.

CLARENCE A. HALL.

(Mention Gleanings.)

Covert, Kan., Sept. 12, 1907.

Simmins' Pedigree Italian Queens

Warranted 6 months. See back of GLEANINGS, May 15 issue. Nothing like it in the bee-world.

Sam'l Simmins, Queensland, Heathfield, Sussex, England

Choice - Italian - Queens

One Untested Queen, 60c; Six Untested Queens, \$3.00
One Tested Queen, 85c; Six Tested Queens, \$4.50.

Safe Arrival Guaranteed.

John Leininger, - Ft. Jennings, Ohio

MILLER'S SUPERIOR ITALIAN QUEENS

By return mail after June 1, or your money back Northern bred from best red-clover working strains in U. S. No better hustlers; gentle, and winter excellent. Untested, from my three banded Superior Breeder, \$1.00; six, \$5.00; 12, \$9.00. After July 1, 75c; six, \$4.00; 12, \$7.50. Special prices on 50 or more. Safe arrival and satisfaction guaranteed. Circular free.

ISaac F. MILLER, Reynoldsville, Pa.

Swarthmore's Pedigreed Goldens

Swarthmore Apiaries, Swarthmore, Pa

ITALIAN QUEENS By RETURN Mail

Red-clover and Goldens, 60 cts. each; guaranteed, 90 cts.; tested, \$1.15. See list. Leaflet "How to Introduce Queens, "15c; "Rapid Increase," 15c; copy of both, 25c.

E. E. MOTT, GLENWOOD, - MICHIGAN

Swarthmore's Pedigreed Goldens

Swarthmore Apiaries, Swarthmore, Pa.

Queens of

Moore's Strain of Italians

Produce workers that fill the supers, and are not inclined to swarm. They have won a world-wide reputation for honey-gathering, hardiness, gentleness, etc.

Mr. W. Z. Hutchinson, editor of the *Bee-keepers' Review*, Flint, Mich., says, "As workers, I have never seen them equaled. They seem possessed of a steady, quiet determination that enables them to lay up surplus ahead of others. Easier bees to handle I have never seen." My queens are all bred from my best long-tongued three-banded red-clover stock (no other race bred in my apiaries), and the cells are built in strong colonies well supplied with young bees.

PRICES: Untested queens, \$1.00 each; six, \$5.00; dozen, \$9.00. Select untested, \$1.25 each; six, \$6.00; dozen, \$11.00. Select tested, \$2; extra select tested, \$3; breeders, \$10.

I am now sending queens by return mail.

Safe arrival and satisfaction guaranteed. Descriptive circular free. Address J. P. Moore, queen-breeder, Rt. 1, Morgan, Ky.

QUEENS

of the Robey strain of 3-banded Italians during 1909. Warranted queens the remainder of the season, 80 cts. each in any quantity. Satisfaction, or money refunded.

L. H. ROBEY, Worthington, W. Va.

CALIFORNIA QUEENS

Now is the time to requeen so you will have some assurance of strong colonies next year. Nice, large, and prolific daughters of the best queens we could select out of the 1500 colonies we run this season. . . .

GOLDENS AND LEATHER-COLORED ITALIANS.

Untested, each, \$1.00; six, \$5.00; dozen, \$9.00

Tested, each, 1.50; six, 8.00; dozen, 15.00

Prices quoted on lots of 50 or more.

MERCER & WURTH, VENTURA, CALIF.

Restock Now! The original HARDY GOLDENS are the best bees on earth if you consider all points. A great favorite in the North — yes, in fact everywhere. *Beauty, honey, hardiness.* Order in English, French, German, or Spanish. Price (entire season) \$1.00; tested, \$2.00. Also clover, Caucasian, and Carniolans.

CHAS. OSCAR FLUHARTY,
New Martinsville, W. Va.

GOLDEN - ADEL - QUEENS

Golden Italian and Leather-colored Italian, Imported Carniolan, and Caucasian queens. A full line of bee-keepers' supplies. Send for price list. Address

Chas. Mondeng, 160 Newton Av. N., Minneapolis, Minn.

300 Choice QUEENS

of the celebrated Highland Farm Strain of hardy Northern-bred three-banded Italians ready for immediate delivery at following prices: Untested, 75c; 6, \$4.00; 12, \$8.00. Tested, \$1.00 each; \$10.00 per dozen. These are not cheap queens, but the best that the queen-breeder's skill can produce. There is none better at any price. Satisfaction guaranteed.

Send for circular.

J. E. HAND, BIRMINGHAM, ERIE COUNTY, OHIO

W.H.Laws is again on hand with his famous stock of bees and queens for the season of 1909.

Fine well-bred queens are his specialty; and in all the queens mailed during the past 18 years there is not a displeased customer that I know of. On the other hand, letters of praise come from every source. Mr. Wm. Hughes, of Washington, D. C., writes that he has been handling queens for the past twenty years, and he has never found any that equal or please him so well as the two dozen he bought of me last season. I can and do mail queens every month in the year, California and Cuba taking over 100 in the past month of December. I will mail queens from now on at the one price of \$1.00 each or 6 for \$5.00. Breeding queens, each, \$5.00. Write for prices on quantity lots. Address **W. H. LAWS, Beeville, Bee County, Texas.**

IMPROVE your STOCK

by introducing some of our Famous Long-tongued Italian Red-clover Honey-queens. We have been breeders for 23 years, and have developed a strain of bees that some seasons produce nearly 100 lbs. of surplus per colony from red-clover alone.

Untested queens from June to October, 75 cts. each; tested, \$1.25 each; fine breeders, \$10.00 each. Satisfaction guaranteed in every respect.

FRED LEININGER & SON, - DELPHOS, OHIO

Doolittle & Clark

are now sending out choice ITALIAN QUEENS at the following prices: Untested, \$1.00 each; three, \$2.50; 12, \$9.00. Tested, \$2.00 each; three, \$5.00; 12, \$18.00. Breeders, \$2.50, \$5.00, \$10.00.

Borodino - Onondaga Co. - New York

GET YOUR QUEENS DIRECT FROM ITALY

MAY to SEPTEMBER.—Tested, \$2.60; Champion Layers, \$4.00. Dead queens replaced if box is returned unopened. Discount to dealers or for quantities. Beautiful unsolicited testimonials. Honest dealing. For further particulars write to

MALAN BROTHERS

Queen-breeders, Luserna, San Giovanni, Italy

Superior QUEENS!

Carefully reared, leather-colored Italian queens; extra good stock; no disease. Guaranteed to give satisfaction. One, 70c; 6, \$3.75; 12, \$6.50; 20 or more, 50c each, till Nov. 1. S. F. TREGO, Swedona, Ills.

Westwood Red-clover Queens

A New York customer writes, "I have tried queens from a good many breeders, but yours are far ahead of them all." Nuclei and full colonies a specialty. Price list on application.

HENRY SHAFFER, 2860 Harrison Ave., Sta. L, Cincinnati, O

QUEENS!

And nothing but Italians. An improved superior strain is what QUIRIN-THE-QUEEN-BREEDER raises. Stock is Northern-bred and hardy. We winter our five yards on summer stands with practically no loss. Some of the largest honey-producers of the West started with our stock. Free circular and testimonials.

Prices of Queens after July 1	1	6	12
Select queens	\$.75	\$4.00	\$7.00
Tested queens	1.00	5.00	9.00
Select tested queens	1.50	8.00	15.00
Breeders	3.00	15.00	
Golden five-band breeders	5.00		
Two-comb nuclei, no queen	2.25	12.00	22.00
Three-comb nucl., no queen	3.25	18.00	32.00
Full colonies on 8 frames	5.00	25.00	

QUEENS NOW GO BY RETURN MAIL

Safe arrival and pure mating guaranteed. We employ 400 to 500 swarms. Can furnish bees on L. or Danz. frames. Add price of whatever queen is wanted to nuclei or colony. No order too large, and none too small. Over twenty years a queen-breeder.

Address all Orders to

**Quirin - the - Queen - Breeder
Bellevue, Ohio**

Golden and Red-clover Italian Queens

My queens are large and prolific. Their workers are hardy and good honey-gatherers. Give them a trial. Untested, one, \$1.00; six, \$5.00. Select untested, one, \$1.25; six, \$6.50. Select tested, \$2.00 each. All orders filled in rotation.

No nuclei or colonies for sale this season.

W.M. A. SHUFF, 4426 Osage Ave., Philadelphia, Pa.



If You Need a Nice Yellow Italian Queen at once, send to C. J. FAJEN, Blackburn, Mo. Untested, only 65c; tested, \$1.25; 3-fr. nuclei with fine queen, \$2.75; full colonies in 8-fr. hive, \$5.50 with queen.

Classified Advertisements

Notices will be inserted in these classified columns at 25 cents per line. Advertisements intended for this department can not be less than two lines, and should not exceed five lines, and you must say you want your advertisement in the classified columns or we will not be responsible for errors.

Honey and Wax for Sale

FOR SALE.—Comb honey in car lots or less. J. E. PRYOR, Plateau City, Colorado.

FOR SALE.—New alfalfa honey, best quality, new cans and cases, 7½ c. H. E. CROWTHER, Parma, Idaho.

FOR SALE.—Fine quality of well-ripened raspberry-milkweed honey, in new 60-lb. cans (2 in box) at 8 cts. f. o. b. here. P. W. SOWINSKI, Bellaire, Mich.

FOR SALE.—Extracted honey, clover, basswood, and buckwheat, in 60-lb. cans and 225-lb. kegs; and comb honey and beeswax. Prices on application. W. L. COGGSHALL, Groton, N. Y.

FOR SALE.—Two tons of clover extracted honey, new crop; also over a ton of hearts'-ease honey, 1908 crop. State quantity and kind wanted, and make me an offer. J. H. WAGNER, Beatrice, Neb. Box 305.

FOR SALE.—Clover and raspberry honey mixed in new 60-lb. cans. Well ripened and of fine flavor. Sample, 10 cts. Price of sample may be deducted from order. JAMES MCNEILL, Hudson, N. Y.

FOR SALE.—Choice clover and basswood honey, put up in kegs holding 155 lbs., at 7c per lb. No bee disease in this apriary. Sample 10 cts. FRANK C. ALEXANDER, Delanson, N. Y.

HONEY FOR SALE by members of the Michigan Bee-keepers Association. For free annual booklet giving names and addresses of members address the Secretary, E. B. TYRREL, 230 Woodland Ave., Detroit, Mich.

FOR SALE.—New crop fancy extracted honey—thoroughly ripened, rich, thick, and free from honey-dew. Those who use only strictly fancy goods should write us. Sample 10 cts., which will be deducted from first order. ALBELT G. HANN, Pittstown, New Jersey.

FOR SALE.—My new crop white-clover and basswood extracted honey, put up in brand-new 60-lb. cans, two cans to a case, at 9½ cts. per lb. by case of 120 lbs., or 10 cts. per lb. for single 60-lb. can, F. O. B. Flint; cash with order. LEONARD S. GRIGGS, 711 Avon St., Flint, Mich.

FOR SALE.—Raspberry honey, new crop, left on the hives until thoroughly ripened, thick, rich, delicious, has raspberry flavor, stored in bright, new, round, jacketed 60-pound tin cans, with flat cover and wire bail. Ten cents a pound—\$6.00 for a can. Sample ten cents. W. Z. HUTCHINSON, Flint, Mich.

FOR SALE.—Our crop of clover comb honey, in 4 x 5 plain sections; also extracted in the following flavors: Clover, raspberry, willow herb, and a raspberry-basswood blend. A little clover of an amber color, in 60-lb. cans, at 9 cts. Ask for special price in 10-case lots, or more. Sample free. We are specialists; you get the *very best* by buying of us. Have been a reader of GLEANINGS since July 15, 1876, and are up to date in all modern methods of honey production. No honey-dew in our location this year.

E. D. TOWNSEND & SONS, Remus, Mich.

Honey and Wax Wanted

WANTED.—Comb, extracted honey, and beeswax. State price, kind, and quantity. R. A. BURNETT, 199 South Water St., Chicago, Ill.

WANTED.—Five hundred cases fancy white-clover New-York State comb honey; 24 to case. M. H. TWEED & Co., Pittsburgh, Pa.

Wants and Exchanges

WANTED.—Refuse from the wax-extractor, or slum-gum. State quantity and price. OREL L. HERSHISER, 301 Huntington Ave., Buffalo, N. Y.

WANTED.—To correspond with parties where there is a good crop of good apples. F. W. DEAN, New Milford, Pa.

Print your cards, ad's., and labels; complete printing outfit worth \$150 for only \$50. Other business. DALLAS KIRK, Rockton, Pa.

Pianos

FOR SALE.—Genuine bargains in high-grade upright pianos. Slightly used instruments: 12 Steinways, \$350 up; 6 Webers from \$250 up; 9 Krakauers from \$250 up; 7 Knabes from \$250 up; 3 Chickering from \$250 up; also ordinary second-hand Uprights \$75.00 up; also 10 very fine Parlor Grand pianos at about half. Write for full particulars. Cash or easy monthly payments. LYON & HEALY, 62 Adams St., Chicago, Ill. We ship everywhere on approval.

Poultry

A. I. Root's Bee-goods, Poultry-supplies, Seeds, etc. STAPLER'S, 412-414 Ferry St., Pittsburgh, Pa.

R. C. Brown Leghorns; cockerels, \$1 and \$2 each. Unt. Italian queens by return mail, 60 cts.; tested, 75 cts.; select tested, \$1. Fine ext. honey, 8 cts. per lb. GEO. J. FRIESS, Hudson, Mich.

For Sale

FOR SALE.—Bee-supplies at factory prices. D. COOLEY, Kendall, Mich.

FOR SALE.—Fine homer pigeons, good squab breeders. selected stock; bred in enclosed breeding-pens; per pair, \$1.50. JOHN A. THORNTON, Ursa, Ill.

FOR SALE.—A full line of bee-keepers' supplies; also Italian bees and honey a specialty. Write for catalog and particulars. THE PENN CO., successors to W. P. Smith, Penn, Miss.

Just received.—Three cans of honey in new cans and cases; all practically as good as new. Empties go at 25 to 30 cts. per case. J. A. BUCHANAN & SONS, Holidays Cove, W. Va.

FOR SALE.—Several hundred empty 5-gallon honey-cans in fairly good condition; no cases—shipped loose. Fifty for \$2.50, f. o. b. Pittsburgh. M. H. TWEED & Co., 1125 Penn Ave., Pittsburgh, Pa.

Help Wanted

WANTED.—Man and wife, good reliable working house-keeper; man to care for horses, and generally useful. Good home to right people. Farm in Orange County, New York. Box 633, Bordentown, N. J.

Situation Wanted

WANTED.—By an experienced bee-keeper, a position in Cuba during the coming season.

B. W. JACKSON, Groton, N. Y.

WANTED.—Situation by a young man of good health and habits. Almost a life experience with bees. Can furnish references if desired. Prefer a place in a religious home. WILL JENSEN, Howardsville, Va.

Real Estate

FOR SALE.—One 80-acre farm, 30 acres cleared. Good house, barn, and well. Near school, church, and store. Extra good bee locality; no better soil in Wisconsin. For particulars write

L. FRANCISCO, R. F. D. 1, Moon, Wis.

Bees and Queens

FOR SALE.—Red-clover queens, untested, 50c; tested, \$1.00. Hybrids 30c. M. C. EXCELL, Wellsville, Ohio.

FOR SALE.—Italian queens; untested, 50 cts.; select, 75 cts.; tested, \$1.00. ROBT. B. SPICER, Wharton, N. J.

FOR SALE.—Good Italian queens, each, 75 cts., 6 for \$4.00; 12 for \$9.00. D. J. BLOCHER, Pearl City, Ill.

FOR SALE.—Golden-all-over queens, and bee-keepers' supplies. T. L. MCMURRAY, Silverton, W. Va.

FOR SALE.—85 colonies of bees in movable-frame hives; good condition. A. J. CUTTS, Barachias, Ala.

POUND BEES, nuclei, full colonies, from Mechanic Falls branch. Prices on application. MASON, Mechanic Falls, Me.

FOR SALE.—Northern-bred red-clover queens. Untested, 75 cents; tested, \$1.00. E. S. WATSON, Madison, Maine. R. F. D. No. 2.

FOR SALE.—High-grade Italian queens, tested, \$1.00; two-frame nucleus with queen, \$3.00. DR. S. T. HOOKEY, 4712 Oak St., Kansas City, Mo.

FOR SALE.—Untested red clover Italian queens. Bred from Root's stock; 60 cents each. Virgins, 40 cents. J. F. ARCHDEKIN, St. Joseph, Mo. Rt. 7.

Extra-fine queens of the red-clover strain, bred by the originator. Fine queens for breeders' use, a specialty. F. J. WARDELL, Uhrichsville, Ohio.

FOR SALE.—Fine golden Italian queens by return mail. Untested, 50 cts.; tested, \$1.00; select tested, \$1.25. D. T. GASTER, Randleman, N. C. Rt. 2.

FOR SALE.—Hardy goldens and Adel queens; Italians; fine honey-gatherers. Virgins, 40 cts.; untested, 75 cts.; tested, \$1.50. EDWA. REDDOUT, Baldwinsville, N. Y.

5000 three-band Italian queens ready to mail March 1. Untested, 75 cts.; tested, \$1.00; breeders, \$5.00. Ask for prices in large quantities. W. J. LITTLEFIELD. Route 3. Little Rock, Ark.

FOR SALE.—1000 colonies of bees with fixtures; run principally for extracted honey. DR. GEO. D. MITCHELL & CO., 340 Fourth Street, Ogden, Utah.

FOR SALE.—Three-banded Italian queens by return mail, reared from the best red-clover stock; untested, one, 75 cts.; six, \$4.00. WM. I. F. HOFFA, Temple, Pa. Rt. 1.

Missouri-bred Italian queens by return mail. Select untested, 75 cts.; tested, \$1.00; breeders, \$3.00; virgins, 40 cts.; dozen lots 20 per cent discount. L. E. ALTWEIN, St. Joseph, Mo.

FOR SALE.—175 swarms of bees at a bargain if taken soon; 8 and 10 frame 2-story hives with Hoffman frames, built from wired foundation. If interested call on or write. W. H. RAILS, Orange, California.

FOR SALE.—75 col. bees, 75 sets ext. combs in hive bodies, 100 hives, 175 comb-supers, 1 new Barnes saw, 1 new 4-fr. extractor, 1 wax-press, etc. No disease. Will take \$300. M. M. TRAVIS, Marshfield, Wis.

FOR SALE.—Moore's strain and golden Italian queens, untested, \$1.00; six, \$5.00; twelve, \$9.00. Carniolan, Banat, and Caucasian queens, select, \$1.25; six, \$6.00; twelve, \$10.00. Tested, any kind, \$1.50; six, \$8.00. Choice breeders, \$3.00. Circular free.

W. H. RAILS, Orange, Cal.

FOR SALE.—Italian queens, hustlers, untested, 65 cts.; select, \$1.00; tested, \$1.25.

MRS. J. W. BACON, Waterloo, N. Y.

FOR SALE.—My entire apiary, 32 colonies of Italian bees in 10-fr. hives, 80 10-fr. ex. supers, 60 with drawn combs, 89 comb-honey supers in the flat, and a number of other things. If interested answer at once; there is a bargain for some one; all are used but two years.

M. A. JONES, Atwater, Ill.

FOR SALE cheap.—12 hives of bees, cross between golden Italians and gray Carniolans. No trouble whatever from swarming. Produce surplus comb honey every year. Never had any disease. Colonies all strong. Must sell at once. Apply to

E. M. BAKER, Farm School, Pa.

FOR SALE.—50 colonies leather-colored Italians in ten-frame hives, which have given me a revenue of \$10.00 per colony for the past ten years. Fine range of 5000 acres alfalfa. Will give use of my bee-house one season. For further particulars address

A. J. SNOWDEN, Kearney, Neb.

One thousand queens, and 225 lbs. of fine honey from one colony. Mr. A. B. Jackaberry, Cantril, Ia., says he took 225 lbs. of fine comb honey from one colony with one of our queens in it. Our bees are honey-gatherers. We have many such good records. During August we will give you a special chance to stock your colonies with our queens. We breed and can give you red-clover and golden Caucasians, one queen, as they run, 65 cts.; select, 75 cts.; tested, \$1.00. Four-frame nuclei with good queens, \$3.50; full colonies, \$6.00. Caucasian queens, \$1.00; tested, \$1.25. We stand by all our goods. We guarantee safe delivery of all queens. Special prices on 100 queens. Send in your order at once. G. ROUTZAHN, Biglerville, Pa.

Bee-keepers' Directory

FOR SALE.—Bees, queens, and honey. Write to A. H. KANAGY, Kishacoquillas, Pa.

Bee-keepers' Supply Co., Lincoln, Neb. We buy car lots of Root's goods. Save freight. Write.

ITALIAN BEES, queens, honey, and Root's bee-keepers' supplies. ALISO APIARY, El Toro, Cal.

Well-bred bees and queens. Hives and supplies. J. H. M. COOK, 70 Cortlandt St., New York City.

For bee-smoker and honey-knife circular send card to T. F. BINGHAM, Farwell, Mich.

Golden and red-clover Italian queens. See my other adv't in this issue. WM. A. SHUFF, 4426 Osage Ave., Philadelphia.

Italian queens from direct imported mothers, red-clover strain, \$1.00. Circular. A. W. YATES, 3 Chapman St., Hartford, Conn.

Golden yellow Italian queens my specialty; 1909 price list ready. Safe introducing directions. E. E. LAWRENCE, Doniphan, Mo.

For your address on a postal card I will send you valuable information pertaining to queen culture. Write to-day. J. E. HAND, Birmingham, Ohio.

FOR SALE.—High-grade red-clover and Golden queens. Safe arrival and satisfaction guaranteed. One, 75 cts.; six, \$4.00; dozen, \$7.50. SIRES BROS. & CO., North Yakima, Wash.

QUEENS.—Improved red-clover Italians, bred for business, June 1 to Nov. 15, untested queens, 60 cts.; select, 75 cts.; tested, \$1.00 each. Safe arrival and satisfaction guaranteed; will exchange a few queens for yellow sweet-clover seed. H. C. CLEMONS, Boyd, Ky.

Quirin's famous improved Italian queens ready in April; nuclei and colonies about May 1. My stock is northern bred, and hardy. Five yards wintered on summer stands without a single loss in 1908; 22 years a breeder. For prices see large ad. in this issue.

QUIRIN-THE-QUEEN-BREEDER, Bellevue, O.

Continued from page 519.

done this thing. The first one, as you may remember, was in Florida.

INDUCING A HEN TO ACCEPT NEWLY HATCHED CHICKS WHEN SHE HAS BEEN BROODY ONLY A FEW DAYS.

It reminds one of introducing virgin queens; and, by the way, how often we find that our work with domestic animals seems to run along in parallel lines! The discovery amounts to this: You can not only take the eggs out of the incubator before they are hatched, but you can take the chickens after they are hatched, and give them to a broody hen.* Such a hen, if properly cared for, ought to be laying in three or four weeks. My particular strain of White Leghorns down in Florida usually commence laying before the chicks are weaned.

SORTING OUT THE LAYING HENS; THAT BEE-ESCAPE FOR CHICKENS.

It is a little funny, but the brother who writes the following letter has been using almost the very thing I illustrated on page 483. He certainly did not copy it from me, because his letter is dated before our issue for Aug. 1 came out. Here is his letter:

I have been intending to use the plan mentioned, for the next breeding season, to insure fertility, but had not got down to the details. In the last day or two I have been thinking of using it for another purpose. About this time of year the hens begin to stop laying, and, of course, that system will show us which are the drones, so that we can kill or market those, and keep the layers as long as possible; and for that reason I should very much like to have your ideas on the subject.

With regard to the "chicken-escape," I have been using the following for years: Take a board, width according to size of chickens used for. I never had occasion to use it except for young birds. Cut out an oval hole large enough to let fowls through, and hang in it, with two common netting staples, a piece of bent telephone wire. Cut a hole in your fence anywhere required, folding the cut part up, so you can turn it down again if you should want to, and lace with a little wire; then nail your escape-board to the bottom-board of your fence. It has always worked finely for me, and such material is always to be had for almost nothing.

W. J. WHISTON.

Kingston, N. Y., July 26.

Now if you will all turn to my picture of the chicken-escape on page 483, Aug. 1, you will readily understand that his invention consists in having one strong wire bent in the shape of a letter U instead of L. Of course it must be square at the corners. In order to prevent the hens from springing the wires apart, the wire will have to be considerably heavier than mine. The two wires will then rise up together without spreading apart except as the spring of the wire will permit. I presume the nail-heads at the bottom, to catch the two ends, will work all right. Of course, this arrangement can be used for a great variety of purposes — first, by putting your choice male in the yard where he will meet all hens just as soon as they have laid an egg. I am inclined to think this is something valuable—see page 92, Feb. 1. In my first experiment, after

* To-day, Aug. 13, I have safely introduced another lot of chicks from the incubator to *another* hen, that simply "wanted to sit."

fixing my yard I had 13 chickens from 14 eggs. Secondly, if you wish to kill or sell some of your old hens you can tell exactly which ones are not laying. I would put in a caution here, however; and this is, that our best layers frequently if not invariably stop laying for awhile, and then commence again. The non-sitting strains, like the Leghorns, usually do this. Some of you may ask, "What about the Potter system and the Hogan system?" Well, I have never used either one very much, although one costs \$1.00 and the other \$10.00—or at least the owner said he wanted \$10.00. My greatest objection is that you have to catch the hen to tell whether she is laying or not; and you can not tell the story even then as you can with the trap-nest. This arrangement of ours that we have just been talking about puts all the laying hens in a yard by themselves, and you do not have to lift a finger. It may be that, after an extended use of this arrangement, our hens will "catch on" and go through the trap, even if they do not want to go to the nest to lay. Of course, when moulting-time comes the hens that are in moult will not go into the laying-yard, even if they are among the best layers. You will have to look out for this. Many thanks, friend W., for your kind suggestion.

SPECIAL NOTICES

BY OUR BUSINESS MANAGER

SECOND-HAND CANS.

We have on hand some good second-hand 60-lb. cans, two in a case, which we do not recommend for the best grades of honey, but which would be all right to use for honey-dew or off grades. Price \$3.00 per 10 cases. We have less than 100 cases.

HONEY, COMB AND EXTRACTED.

We shall be pleased to receive offers of choice honey, both comb and extracted. If comb, give description—style of section, how cased, grade, and the price asked. If extracted, mail a sample; state quantity, how packed, and the price asked. We prefer only the best grades.

BEESWAX MARKET.

We are receiving beeswax for next season's use, and are paying 28 cents cash, 30 in trade, for average wax delivered here; one or two cents extra for choice yellow. Do not fail to mark your package so it can be identified when it reaches us. With wax coming from numerous shippers all at the same time, this is very important.

SPECIAL GOODS.

We have now passed our rush season, and are in position as we have not been for months past to make up any special goods which some patrons prefer to use. Let us know what your requirements are in this line, and we will try to accommodate you during our slack season in the weeks ahead.

SWEET-CLOVER SEED.

There may be those among our readers who could plan to gather a quantity of sweet-clover seed. We have already heard from several such. If prepared to furnish any quantity, let us hear from you and we will advise you how much we can pay if we have not already engaged all we can use.

PREMIUM JARS.

If you want the best jar on the market to-day for canning fruit or putting up honey you should not fail

to investigate the Premium jar, which we have been advertising for some time. It has so many points of advantage over ordinary Mason jars, or even the best of other styles, that we feel sure, after a careful investigation and comparison, you will decide in favor of the Premium. We have the jars on hand in three sizes—pint, quart, and half-gallon. No other small sizes are made as yet. The pint size holds 1½ pounds of honey; the quart 3 pounds. Price in reshipping-cases of one dozen, 80 cts. per dozen for pints; \$1.00 for quarts; and \$1.25 for half-gallon; less 10 per cent in lots of 12 dozen or more. Special prices quoted to dealers on application.

IMPROVED FACILITIES.

We are planning some improvements and changes to increase our facilities to take better care of our trade in the years to come. To provide still further against the possibility of fire we are spending several thousand dollars in bringing our automatic sprinkler equipment and fire-fighting apparatus right up to the latest standards. We are moving our present warehouse to a more isolated position, and will build one of more than twice the capacity, of concrete, as nearly fire-proof as it is possible to make it. This we plan to fill with goods during the slack season so as to be prepared as never before for the heavy demand for goods during the spring months, when we can not make them as fast as they are needed. As this new warehouse will not be ready to occupy for two or three months we shall be glad to have our dealers who are so disposed order what stock they can take care of in the near future.

Special Notices by A. I. Root.

THE SOLAR WAX-EXTRACTOR FOR KEEPING HONEY FROM GRANULATING.

After the communication from friend Rood, found on p. 496, was printed, we received from him the following:

I am finding that my sun heaters for honey are doing good work. I believe that they are going to do away with granulation in jars altogether. If so, it will mean the making of many dollar and the saving of much work for me.

Bradenton, Fla., Aug. 5.

E. B. ROOD.

Convention Notices.

NATIONAL CONVENTION.

The next annual meeting of the National Bee-keepers' Association will be held at Sioux City, Ia., Sept. 22, 23. Car fare of 1½ round trip for 200 miles each way. Board and meals cared for by Sioux City Y. M. C. A. Lodgings not over 50 cts., and meals from 10 cts. up as ordered. Full program in next number of GLEANINGS.

N. E. FRANCE.

Platteville, Wis., July 27.

CONNECTICUT HONEY EXHIBIT.

The fall honey exhibit of the Connecticut Bee-keepers' Ass'n will be held Sept. 6–11, Charter Oak Park, Hartford, in connection with the State Fair. The Fair Association liberally offers to double each premium, thereby raising the premium list to \$400 on but 17 classes. Write the Conn. Fair Ass'n for premium list. Entries close Aug. 18. Send fee (\$1.00) to A. W. Yates, chairman, 3 Chapman St. Members of Conn. Bee-keepers' Ass'n only may compete. Join at once. Send dues (50 cts.) to

JAS. A. SMITH, Sec'y.

Address all at Hartford.

The Pennsylvania State Bee-keepers' Association will hold its sixth annual convention, Sept. 8 and 9, in the P. O. S. of A. Hall, near the court-house, Lebanon. Headquarters will be at the Eagle Hotel, where the rates to bee-keepers will be \$1.50 per day when two persons occupy the same room.

FIRST SESSION, SEPT. 8.

1 P.M. BUSINESS. President's address.

"Alfalfa as a Honey-producer," by C. N. Greene, of Troy, Pa.

"Bee-keeping in New Mexico," by G. H. Rea, of Reynoldsburg, Pa., who has spent the summer at Mesilla Park.

SECOND SESSION, 7:30 P.M.

Address of welcome, by Dr. Henry Houck, Secretary of Internal Affairs, of Lebanon, Pa.

Response by the President.

"Origin and Progress of the Lebanon Bee-keepers' Association, by E. L. Brown, of Lebanon, Secretary.

"Apiculture in Juniata County and Vicinity," by Professor H. C. Klinger, Superintendent of the public schools of Juniata Co., of Liverpool, Pa.

"The Distribution of Brood Diseases in Pennsylvania," by Dr. E. F. Phillips, of the Bureau of Apiculture, Washington, D. C.

THIRD SESSION, 9 A.M., SEPT. 9.

"Accomplishments and Aims of the Philadelphia Bee-keepers' Association," by F. H. Fahman, of Philadelphia, Pa.

"Qualities to be Secured in Queen-breeding," by P. G. Snyder, of Secane, Pa.

"Extracted Honey," by Harold Hornor, of Jenkinsburg, Pa.

"Conditions of Honey Production in Lebanon and Lancaster Counties," by H. K. Beard, Manheim, Pa.

FOURTH SESSION.

At apiary of Wayne Schilling, Lebanon. Leave the court-house at 1 P.M., taking West Lehman St. car.

Demonstrations will be given in the shook method, by Prof. H. A. Surface and Wayne Schilling.

Circumstances favoring, a "queen-hunting contest" will be held.

Exhibits of bees, apicultural products, and supplies are invited. Bring your friends. All are welcome.

State Fair Premium Lists.

The Oregon State Fair will take place at Salem, Sept. 13 to 18. Competition open to the world. Premiums: Best display of bees in an observatory hive, not less than three cages.....	\$10	\$5
Best display of aparian products of one apiary.....	6	3
Best display of aparian implements.....	6	3
Best display of queen-nursery and queens.....	2	1
Best hive.....	2	1
Best 24 lbs. of section honey.....	3	2
Best 3 gallons of extracted honey.....	3	2
Best 5 lbs. of beeswax.....	2	1

F. A. WELCH, Sec'y, Salem.

The Tennessee State Fair will take place at Nashville, Sept. 22 to 25. All products in the aparian department must be pure, and free from adulteration.

At the time of making entry, exhibitors must file a statement with the superintendent that the honey and other products they exhibit were produced in their own apiary.

All exhibits, except lots marked with a * must be the product of the exhibitor.

Best 10 lbs. of extracted honey in glass.....

\$7 \$5 \$3 \$2.00

Best display of extracted honey, 50 lbs.....

15 10 5 2.00

Best case of comb honey, 12 lbs. or more, quality and appearance to count.....

7 5 3 2.00

Best display of comb honey, 50 lbs.....

15 10 5 2.00

Best 5 lbs. of granulated honey.....

5 2 1 1.00

* Display of labeled samples, showing honey from different kinds of flowers.....

7 5 3 2.00

Best half-gallon of honey vinegar.....

3 2 1 .50

Best display of beeswax, 25 lbs. or more.....

7 5 3 2.00

Nucleus of dark Italians.....

5 2 1 .50

Nucleus of golden Italians.....

5 2 1 .50

Nucleus of Caucasians.....

5 2 1 .50

Nucleus of Carniolans.....

5 2 1 .50

Nucleus of any other race.....

5 2 1 .50

Display of queens in cages.....

7 5 3 2.00

* Best photograph of apiary.....

3 2 1 .50

Largest and best display of bees, bee products, implements, etc., exhibit to be made by individual bee-keeper.....

25 15 10 5.00

J. M. BUCHANAN, Sup't, Franklin, Tenn.

Mr. Root:—Well do I recollect the time you were offering a smoker to any bee-keeper who would give up smoking or using tobacco. I have tried to follow the trend and teachings of Our Homes ever since it was started, and it is our earnest prayer each day that the writer of it may be spared many years yet, as I believe those writings are read and followed by more people than any one minister's sermons from any pulpit. I might add that I have lived forty years of this allotted life, and have, as yet, to make my first use of tobacco in any form. This I attribute to my good mother, for she taught me this in early childhood, and I followed in the narrow path, led by such teachings as Our Homes.

G. W. BERCAW.

El Toro, Cal., July 28.

DADANT'S FOUNDATION

DADANT'S FOUNDATION

It Excels

WHAT'S IN A NAME?

That depends on whose name it is. It depends upon what the name represents. It depends upon the quality of the goods the name represents. It is NOT the name that makes DADANT'S FOUNDATION so well known and well liked, but it is the **Quality of the Goods**. That's what backs up the name, and the **QUALITY** is backed by thirty years of successful experience in foundation-making.

EVERY INCH of DADANT'S FOUNDATION is equal to the best inch we can make. Do not fail to insist on Dadant's make when you order your foundation. Accept no substitute, even though the dealer claims his foundation is made by the same process.

It is the PURIFYING PROCESS that counts. Our method of purifying has been unequalled for years. This method leaves every essential in the pure beeswax, and our foundation does not have the odor of wax cleansed with acids.

That is why several large honey-producers who have tested our foundation side by side with other makes, have found ours to be the best, and the best liked by the bees.

Beeswax

Do not sell your beeswax until you get our quotations. We have received, up to April 1, over 80,000 pounds of beeswax for our 1909 trade. We will need over 80,000 pounds more before January 1, 1910. Drop us a card and get our prices.

Agents for DADANT'S FOUNDATION in every part of the United States.

Dadant & Sons, Hamilton, Illinois

DADANT'S FOUNDATION

DADANT'S FOUNDATION



FOR
QUICK DELIVERY

and LOW FREIGHT send your
orders for BEE-SUPPLIES to . . .

**THE A. I. ROOT CO., 221-229 Institute Place
CHICAGO, ILLINOIS**

We are now fully moved, located, and well stocked with a FULL LINE of supplies. We have the best shipping facilities, and with plenty of help we promise to get goods to you promptly. There are only two reasons why we might fail; viz., the neglect of some transportation company to give its usual good service, and our inability to turn out stock fast enough to care for your orders. We are promised a large carload from our factory every TEN days, so you see we expect to take good care of your orders. If you haven't our new catalog let us send you one.

Remember our new location, four blocks north of our former place.

The A. I. Root Co.,

221-229 Institute Place

R. W. Boyden, Resident Manager.

Chicago, Illinois

Jeffrey Building

Take Elevator to Sixth Floor.

Telephone 1484 North.

OUR QUEENS

Were Never Better than They are Now

We Have Queens of every grade bred in our yards here, that we can send out by return mail.

We Guarantee Our queens to be equal to any stock bred, and better than the average.

You Can't Expect To get large crops of honey if you have inferior stock in your yards.

It Doesn't Pay To leave old and common queens in the hives.

Requeen Now We can furnish the best stock at this season of the year at such reasonable prices that no one need hesitate to get the queens he needs.

The First Cost Is really a secondary consideration now.

Quality Is the first consideration, and we know you can not be better pleased than to send your order to us. We guarantee safe arrival anywhere in the United States.

Our Prices Untested . . . \$1.00 Select tested . . \$3.00
Select untested 1.25 Breeders . . . 3.50
Tested . . . 2.00 Select breeders . 7.50
Extra select breeders 10.00

Quantity Orders We take special care of orders for queens in lots of fifty or more. Give plain mailing instructions, telling whether you want them all one day or at intervals and we will get them to you just when you want them. We make special prices in quantity lots.

Write Us Today And get some of the best queens obtainable at reasonable rates, and be sure of getting a large honey crop. Our bees will gather honey if there is any to be had.

The A. I. Root Co., Medina, O.

FALCON QUEENS

WE HAVE in charge of our Queen Department Mr. Leslie Martin, who has had wide experience in the queen business, having been the queen-breeders in the apiary of the U. S. Department of Agriculture, Washington, D. C., for several seasons, as well as privately conducting the Birdcroft Apiaries in Tennessee since that time. His queens have become famous, and it is with pleasure we offer his services to our customers in the management of this department.

Our "Falcon" Queens are unexcelled in honey-gathering qualities; they winter well, and are gentle. They cap their sections snow-white, and breed early in spring.

Our Mr. Martin is particularly an authority on Caucasians, as he bred much of the stock sent out by the U. S. Department of Agriculture which other breeders are using.

Get our Improved "Falcon" Queens, and increase your honey yields.

Price List of "Falcon" Queens

Three-band and Golden Italians, Caucasians, and Carniolans

	BEFORE JULY 1	AFTER JULY 1
Untested.....	One, \$1.00; six, \$5.50; 12, \$10.00.	One, \$.75; six, \$4.25; 12, \$ 8.00
Select Untested.....	One, 1.25; six, 6.75; 12, 12.75.	One, 1.00; six, 5.50; 12, 10.00
	Tested, \$1.50 each	Select Tested, \$2.00 each

All queens are reared in strong vigorous colonies, and mated from populous nuclei. Instructions for introducing are to be found on reverse side of the cage-cover. Safe arrival and satisfaction guaranteed.

Falcon Square Jars

Honey can not be put up in more attractive packages for exhibition purposes or the grocery trade than in glass, and for this purpose the square honey-jar is best and most convenient, besides economizing space. Prices:

5-oz. with cork stoppers.....	{ \$2.25 per crate of 100
	{ \$1.25 per crate of 50
8-oz. with spring top.....	{ \$3.75 per crate of 100
	{ \$2.00 per crate of 50
1-lb. with spring top.....	{ \$4.75 per crate of 100
	{ \$2.50 per crate of 50

The glass top with spring attachment is the only absolutely safe method of bottling honey, as corks and screw-caps will leak. Still, we furnish the 1-lb. and the 8-oz. jars with corks, for those who desire them, at 75 cts. per 100 less and 40 cts. per 50 less than with the spring top. We do not sell less than crate lots.



W. T. Falconer Manufacturing Co.
Jamestown, New York, U. S. A.